

S01_01 (S042258): Biology / Applying Type: MC Key: C
Label: Function lungs-skin-kidneys share

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	28.9	27.4	16.5	28.9	25.6	1.6	0.0	25.6	32.1
	2015	1487	33.5	25.5	16.5	33.5	22.5	1.7	0.4	36.1	31.0
Bahrain	2011	658	29.6	13.2	19.4	29.6	35.2	2.4	0.1	32.7	26.4
	2015	701	38.3	14.8	15.3	38.3	29.8	1.8	0.0	41.9	34.7
Botswana	2011	768	32.0	11.9	18.6	32.0	36.6	1.0	0.0	34.8	28.9
	2015	848	40.0	14.3	18.1	40.0	26.9	0.3	0.3	41.0	39.1
Chile	2011	826	33.5	22.3	16.4	33.5	26.1	1.5	0.2	33.4	33.7
	2015	701	38.6	25.3	8.9	38.6	25.2	2.0	0.0	38.4	38.8
Chinese Taipei	2011	718	56.4	14.4	11.0	56.4	18.1	0.1	0.0	52.8	59.9
	2015	815	57.4	13.3	10.6	57.4	17.8	0.8	0.0	55.6	59.2
England	2011	541	26.6	26.6	22.4	26.6	23.5	1.0	0.0	23.7	29.2
	2015	685	24.4	28.5	23.9	24.4	22.3	0.9	0.0	26.6	22.1
Georgia	2011	648	32.7	6.8	7.7	32.7	49.5	3.0	0.3	37.8	27.3
	2015	569	48.3	5.8	10.2	48.3	32.2	3.1	0.5	48.5	48.1
Hong Kong SAR	2011	576	33.9	24.1	23.4	33.9	17.3	1.4	0.0	29.7	38.3
	2015	596	31.4	26.2	20.6	31.4	21.3	0.6	0.0	28.3	34.0
Hungary	2011	739	41.2	12.0	15.6	41.2	29.7	1.6	0.0	41.6	40.8
	2015	692	42.2	10.6	20.3	42.2	25.4	1.5	0.0	45.0	39.8
Iran, Islamic Rep. of	2011	856	55.2	6.4	8.7	55.2	28.4	1.3	0.0	59.3	51.6
	2015	879	52.1	7.5	13.4	52.1	24.6	2.0	0.4	54.4	50.1
Israel	2011	689	38.5	8.6	21.1	38.5	29.0	2.8	0.0	40.4	36.4
	2015	782	31.4	10.9	25.1	31.4	29.4	2.7	0.5	28.7	33.9
Italy	2011	560	66.1	6.4	9.5	66.1	16.8	1.3	0.0	63.3	68.7
	2015	640	63.5	9.7	8.8	63.5	16.7	1.0	0.4	61.8	65.1
Japan	2011	624	44.5	11.9	19.9	44.5	23.3	0.5	0.0	39.2	49.4
	2015	680	43.3	14.0	22.0	43.3	20.1	0.7	0.0	38.8	48.0
Jordan	2011	1093	31.8	17.6	13.7	31.8	34.7	2.3	0.0	33.3	30.3
	2015	1128	27.2	22.8	16.3	27.2	31.7	2.1	0.0	29.9	24.6
Kazakhstan	2011	629	42.5	15.6	11.7	42.5	28.0	2.3	0.0	41.6	43.4
	2015	706	50.8	9.1	10.8	50.8	27.8	1.0	0.6	50.2	51.3
Korea, Rep. of	2011	739	59.7	7.2	15.6	59.7	17.4	0.1	0.0	59.3	60.1
	2015	761	62.6	9.9	15.9	62.6	10.4	1.2	0.0	61.1	63.9
Lebanon	2011	563	36.8	15.6	22.5	36.8	22.3	2.7	0.0	33.4	40.9
	2015	534	40.4	13.6	16.3	40.4	23.3	5.8	0.7	37.6	43.9
Lithuania	2011	686	63.1	6.8	12.8	63.1	15.5	1.6	0.2	64.6	61.7
	2015	617	68.8	6.7	11.0	68.8	12.3	1.1	0.0	71.8	65.9

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

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COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	32.1	13.8	25.1	32.1	27.7	1.2	0.1	31.1	33.1
	2015	1375	32.6	14.0	24.3	32.6	27.9	1.2	0.0	32.1	33.2
Morocco	2011	1170	15.1	18.4	25.5	15.1	35.5	4.4	1.2	15.4	14.9
	2015	1898	15.2	16.8	31.5	15.2	32.5	3.7	0.3	14.4	16.0
New Zealand	2011	751	23.5	33.8	18.6	23.5	23.2	0.8	0.2	19.8	26.9
	2015	1181	22.3	26.7	23.2	22.3	26.7	1.1	0.0	20.0	25.0
Oman	2011	1379	35.1	16.9	15.8	35.1	28.8	3.4	0.0	41.0	29.1
	2015	1288	41.4	16.1	15.3	41.4	24.9	2.0	0.1	46.3	36.8
Qatar	2011	634	29.1	19.8	21.1	29.1	27.5	2.6	0.0	28.8	29.4
	2015	760	36.5	18.4	16.5	36.5	26.1	2.1	0.4	38.9	34.0
Russian Federation	2011	704	63.8	8.0	12.4	63.8	13.2	2.4	0.1	64.0	63.7
	2015	683	62.0	8.3	11.9	62.0	15.1	2.6	0.0	58.4	65.6
Saudi Arabia	2011	687	42.3	15.8	19.5	42.3	21.5	0.9	0.0	42.8	41.8
	2015	544	33.1	19.6	22.2	33.1	25.0	0.1	0.0	33.8	32.3
Singapore	2011	840	30.1	19.0	18.1	30.1	32.6	0.2	0.0	28.8	31.3
	2015	879	36.5	13.5	19.7	36.5	29.6	0.6	0.1	34.5	38.4
Slovenia	2011	626	40.2	11.4	17.3	40.2	28.7	2.4	0.0	38.5	41.8
	2015	607	50.7	15.8	12.3	50.7	19.3	1.9	0.0	49.9	51.5
South Africa	2011	1701	21.8	21.2	21.0	21.8	33.9	1.9	0.1	22.3	21.3
	2015	1754	19.3	25.8	19.3	19.3	34.1	1.1	0.4	20.5	18.0
Sweden	2011	803	24.4	30.1	19.9	24.4	24.2	1.2	0.2	23.4	25.4
	2015	582	25.9	29.6	20.4	25.9	21.2	2.6	0.2	26.6	25.3
Thailand	2011	877	52.9	4.4	15.1	52.9	26.2	1.3	0.0	58.4	46.6
	2015	926	50.5	5.3	12.4	50.5	30.9	0.9	0.1	52.3	48.5
Turkey	2011	990	71.0	6.4	6.8	71.0	15.2	0.7	0.0	75.0	67.4
	2015	865	66.8	7.7	7.8	66.8	17.3	0.4	0.0	72.6	61.6
United Arab Emirates	2011	2012	24.5	18.0	20.1	24.5	35.9	1.5	0.1	25.3	23.6
	2015	2554	33.2	17.4	18.8	33.2	29.4	1.1	0.1	35.1	31.2
United States	2011	1499	28.7	29.8	19.7	28.7	20.6	1.2	0.0	26.5	31.3
	2015	1432	27.8	28.4	21.9	27.8	20.2	1.3	0.3	26.2	29.3

International Avg (n=33)	2011	28473	39.0	15.8	17.0	39.0	26.4	1.6	0.1	39.0	39.0
	2015	31149	40.8	16.1	17.0	40.8	24.2	1.6	0.2	41.1	40.6

Ontario, Canada	2011	670	28.5	25.7	20.1	28.5	24.2	1.5	0.0	28.9	28.1
	2015	649	29.1	29.1	16.1	29.1	24.0	1.1	0.5	34.3	24.0

DIFF = Percent correct
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COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	29.2	17.5	21.0	29.2	30.6	1.7	0.0	29.5	28.9
	2015	564	36.1	18.4	20.6	36.1	24.1	0.8	0.0	33.0	39.8
Norway (8)	2011	565	34.8	23.3	18.0	34.8	23.0	0.9	0.0	35.7	34.0
	2015	689	30.3	24.9	18.5	30.3	23.9	2.1	0.3	29.6	31.0
Abu Dhabi, UAE	2011	636	24.4	17.4	26.0	24.4	30.2	1.8	0.2	24.1	24.6
	2015	685	25.4	19.2	22.7	25.4	31.3	1.3	0.1	28.5	22.2
Dubai, UAE	2011	787	33.0	18.8	14.2	33.0	32.2	1.7	0.1	34.3	31.8
	2015	868	46.8	15.6	11.3	46.8	25.4	0.9	0.0	48.1	45.3
Florida, US	2011	241	33.8	23.7	23.3	33.8	18.7	0.5	0.0	31.8	35.6
	2015	288	29.9	21.8	18.2	29.9	28.5	1.2	0.5	24.5	34.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_02 (S042005): Biology / Applying Type: CR 2 Points
Label: Characteristic to classify orgs.

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	46.9	9.4	38.7	5.1	0.0	56.2	46.9	48.3	45.5
	2015	1487	41.2	5.4	45.7	7.3	0.4	46.6	41.2	44.1	38.2
Bahrain	2011	658	23.3	12.9	57.4	6.2	0.2	36.2	23.3	29.7	16.7
	2015	701	12.2	20.1	61.9	5.7	0.0	32.3	12.2	15.4	9.0
Botswana	2011	768	16.4	12.3	69.9	1.4	0.1	28.6	16.4	17.8	14.8
	2015	848	13.3	10.9	73.3	2.3	0.3	24.2	13.3	15.0	11.5
Chile	2011	825	46.1	7.9	36.1	9.7	0.2	54.0	46.1	48.5	43.0
	2015	701	36.2	8.1	39.8	16.0	0.0	44.3	36.2	41.0	31.7
Chinese Taipei	2011	718	57.8	8.1	30.4	3.6	0.0	65.9	57.8	60.3	55.4
	2015	815	61.7	9.4	27.0	1.9	0.0	71.1	61.7	62.8	60.7
England	2011	541	53.2	5.8	36.2	4.8	0.0	59.0	53.2	55.9	50.7
	2015	685	48.2	4.8	42.0	5.0	0.0	53.0	48.2	54.0	42.3
Georgia	2011	648	11.5	3.7	54.1	30.3	0.4	15.2	11.5	10.4	12.6
	2015	569	11.6	5.1	59.9	22.9	0.5	16.7	11.6	13.5	9.8
Hong Kong SAR	2011	576	39.3	7.8	47.4	5.5	0.0	47.1	39.3	45.3	32.9
	2015	596	39.7	5.7	50.8	3.8	0.0	45.4	39.7	45.8	34.3
Hungary	2011	739	61.0	4.9	29.1	5.0	0.0	65.9	61.0	61.3	60.8
	2015	692	57.4	5.2	30.9	6.5	0.0	62.6	57.4	64.2	51.3
Iran, Islamic Rep. of	2011	856	62.5	7.0	26.3	4.2	0.0	69.5	62.5	60.5	64.1
	2015	879	54.7	10.1	27.5	7.3	0.5	64.8	54.7	60.6	49.5
Israel	2011	689	48.5	8.3	33.8	9.1	0.2	56.9	48.5	46.6	50.6
	2015	782	47.4	8.9	34.0	8.9	0.8	56.3	47.4	50.6	44.5
Italy	2011	560	48.7	7.2	35.9	8.2	0.0	55.9	48.7	53.8	43.9
	2015	639	43.8	9.8	38.5	7.5	0.4	53.6	43.8	46.9	40.9
Japan	2011	624	62.2	13.1	22.0	2.7	0.0	75.3	62.2	58.3	65.8
	2015	680	62.3	12.5	21.7	3.5	0.0	74.8	62.3	62.8	61.8
Jordan	2011	1093	26.5	3.8	66.0	3.8	0.0	30.2	26.5	30.9	22.1
	2015	1128	17.2	6.7	70.2	5.8	0.1	23.9	17.2	20.8	13.7
Kazakhstan	2011	628	22.4	27.2	40.6	9.8	0.0	49.6	22.4	29.5	15.9
	2015	706	23.1	35.9	33.3	7.2	0.6	59.0	23.1	23.0	23.3
Korea, Rep. of	2011	739	67.2	10.4	20.6	1.8	0.0	77.6	67.2	73.1	60.9
	2015	761	64.9	8.3	22.8	4.0	0.0	73.2	64.9	70.2	60.3
Lebanon	2011	566	4.4	25.4	58.3	11.9	0.0	29.7	4.4	5.4	3.1
	2015	543	14.5	17.6	53.7	13.5	0.7	32.1	14.5	15.2	13.4
Lithuania	2011	686	43.2	9.4	42.0	5.2	0.2	52.7	43.2	43.1	43.4
	2015	617	36.9	7.6	45.9	9.6	0.0	44.5	36.9	34.3	39.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_02 (S042005): Biology / Applying Type: CR 2 Points
Label: Characteristic to classify orgs.

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	29.5	8.2	56.6	5.6	0.2	37.6	29.5	33.7	25.1
	2015	1376	19.7	6.8	67.6	5.9	0.0	26.5	19.7	21.6	17.6
Morocco	2011	1170	2.9	4.7	81.2	9.9	1.3	7.6	2.9	2.7	3.1
	2015	1898	9.9	3.9	77.6	8.4	0.3	13.7	9.9	10.2	9.5
New Zealand	2011	751	48.6	5.9	40.1	5.2	0.2	54.5	48.6	53.1	44.4
	2015	1181	35.0	3.9	54.9	6.3	0.0	38.9	35.0	38.5	30.8
Oman	2011	1379	39.2	7.5	46.9	6.4	0.0	46.7	39.2	48.4	30.0
	2015	1287	30.7	12.3	52.0	4.8	0.1	43.0	30.7	37.2	24.6
Qatar	2011	634	23.3	7.4	62.2	7.2	0.0	30.6	23.3	29.8	16.5
	2015	760	24.6	7.1	60.5	7.1	0.7	31.7	24.6	27.6	21.4
Russian Federation	2011	704	27.7	16.8	44.7	10.7	0.1	44.6	27.7	28.4	27.1
	2015	683	32.4	18.0	35.8	13.8	0.0	50.4	32.4	31.8	33.0
Saudi Arabia	2011	690	28.3	4.4	61.5	5.7	0.0	32.8	28.3	32.7	24.2
	2015	544	17.5	7.7	65.9	8.9	0.0	25.2	17.5	21.6	13.3
Singapore	2011	840	63.5	6.8	27.4	2.2	0.1	70.3	63.5	67.0	60.3
	2015	879	50.1	9.3	37.4	3.0	0.1	59.4	50.1	51.1	49.2
Slovenia	2011	626	49.4	6.4	41.3	2.9	0.0	55.8	49.4	51.1	47.9
	2015	607	48.5	11.9	34.1	5.5	0.0	60.4	48.5	53.2	43.5
South Africa	2011	1701	4.4	7.6	79.6	8.2	0.3	12.0	4.4	5.0	3.8
	2015	1754	7.1	10.6	77.6	4.3	0.4	17.7	7.1	8.0	6.2
Sweden	2011	803	35.0	14.1	41.3	9.4	0.2	49.1	35.0	41.0	29.3
	2015	582	36.9	10.3	42.3	10.3	0.2	47.2	36.9	44.9	29.0
Thailand	2011	877	38.9	9.2	37.8	14.2	0.0	48.0	38.9	43.0	34.1
	2015	926	34.5	5.9	49.3	10.2	0.1	40.4	34.5	35.0	33.9
Turkey	2011	990	42.3	4.7	41.9	11.0	0.0	47.1	42.3	43.8	41.1
	2015	865	36.3	4.8	53.0	6.0	0.0	41.0	36.3	44.5	29.0
United Arab Emirates	2011	2012	33.4	6.4	56.1	4.1	0.1	39.7	33.4	38.5	28.2
	2015	2555	28.3	3.7	64.0	3.9	0.1	32.0	28.3	32.6	24.0
United States	2011	1499	54.4	6.7	36.2	2.8	0.0	61.0	54.4	58.8	49.3
	2015	1432	46.3	8.5	42.5	2.4	0.3	54.8	46.3	49.0	43.6

International Avg (n=33)	2011	28477	38.2	9.1	45.4	7.1	0.1	47.4	38.2	41.1	35.3
	2015	31158	34.7	9.6	48.3	7.3	0.2	44.3	34.7	37.8	31.6

Ontario, Canada	2011	671	48.2	8.9	37.4	5.5	0.0	57.1	48.2	51.9	44.7
	2015	650	43.8	13.4	37.9	4.3	0.5	57.2	43.8	44.7	42.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_02 (S042005): Biology / Applying Type: CR 2 Points
Label: Characteristic to classify orgs.

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	40.6	9.9	45.0	4.2	0.2	50.5	40.6	43.7	37.1
	2015	565	31.5	7.8	53.1	7.5	0.1	39.3	31.5	26.2	37.9
Norway (8)	2011	565	34.0	7.5	48.7	9.6	0.2	41.5	34.0	41.8	27.6
	2015	689	32.6	12.9	44.1	10.1	0.3	45.5	32.6	32.5	32.6
Abu Dhabi, UAE	2011	636	33.0	8.0	55.5	3.4	0.2	41.0	33.0	35.4	30.7
	2015	685	24.8	2.6	68.6	3.8	0.1	27.4	24.8	31.7	17.7
Dubai, UAE	2011	787	35.9	5.3	53.5	5.1	0.1	41.2	35.9	41.3	30.9
	2015	869	35.2	4.2	57.5	3.1	0.0	39.4	35.2	34.9	35.6
Florida, US	2011	241	48.2	7.1	41.9	2.8	0.0	55.3	48.2	53.5	43.3
	2015	288	40.7	5.1	48.8	4.9	0.5	45.8	40.7	40.7	40.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_03 (S042016): Biology / Knowing Type: MC Key: A
Label: Organelle that produces energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	18.5	18.5	50.2	19.7	10.3	1.2	0.0	16.8	20.2
	2015	1487	27.3	27.3	42.0	19.4	9.3	1.5	0.4	28.6	25.9
Bahrain	2011	658	27.2	27.2	41.2	21.8	6.9	2.7	0.2	29.8	24.5
	2015	701	33.3	33.3	39.9	17.0	7.6	2.1	0.0	36.2	30.4
Botswana	2011	768	14.2	14.2	45.1	24.2	14.5	1.9	0.1	14.7	13.7
	2015	848	19.4	19.4	42.4	20.5	15.4	1.8	0.5	22.3	16.4
Chile	2011	826	29.4	29.4	38.6	26.2	3.4	2.2	0.2	27.1	32.3
	2015	701	32.6	32.6	36.4	23.1	4.4	3.5	0.0	30.0	35.0
Chinese Taipei	2011	718	53.7	53.7	33.4	9.8	2.8	0.4	0.0	48.5	58.7
	2015	815	57.0	57.0	31.6	9.1	1.9	0.4	0.0	54.4	59.6
England	2011	541	12.3	12.3	46.7	30.1	8.5	2.4	0.0	11.3	13.2
	2015	685	22.4	22.4	38.4	25.7	11.9	1.7	0.0	25.2	19.5
Georgia	2011	650	41.1	41.1	23.2	17.6	15.1	2.4	0.6	38.1	44.4
	2015	569	34.3	34.3	27.9	23.2	9.0	4.6	1.0	30.7	37.9
Hong Kong SAR	2011	576	8.9	8.9	61.1	24.2	5.1	0.7	0.0	9.4	8.3
	2015	596	12.5	12.5	58.9	23.4	4.4	0.8	0.0	11.7	13.1
Hungary	2011	739	14.5	14.5	70.5	9.3	4.3	1.5	0.0	15.8	13.2
	2015	692	18.4	18.4	69.6	9.6	1.7	0.9	0.0	17.2	19.4
Iran, Islamic Rep. of	2011	856	15.5	15.5	38.0	33.7	11.3	1.5	0.0	16.4	14.7
	2015	879	33.2	33.2	29.2	23.9	10.4	2.8	0.5	37.2	29.5
Israel	2011	689	40.3	40.3	33.0	19.7	5.4	1.3	0.3	42.2	38.2
	2015	782	46.2	46.2	28.6	16.1	4.8	3.5	0.8	49.8	43.1
Italy	2011	560	35.7	35.7	43.0	15.7	3.4	2.2	0.0	37.5	34.0
	2015	640	31.2	31.2	43.3	16.8	6.1	2.2	0.4	35.2	27.4
Japan	2011	624	18.5	18.5	49.9	25.2	6.0	0.5	0.0	13.0	23.6
	2015	680	20.4	20.4	43.9	28.5	6.4	0.8	0.0	18.2	22.7
Jordan	2011	1093	24.5	24.5	48.1	18.5	6.9	2.0	0.0	26.9	22.2
	2015	1128	15.1	15.1	56.7	20.0	6.0	1.9	0.3	16.0	14.2
Kazakhstan	2011	629	42.5	42.5	27.8	17.2	8.5	4.0	0.0	45.4	39.8
	2015	705	57.4	57.4	21.0	13.5	5.0	2.5	0.6	60.5	54.5
Korea, Rep. of	2011	739	21.6	21.6	58.7	14.3	5.0	0.4	0.0	19.0	24.4
	2015	761	54.6	54.6	28.9	13.3	2.9	0.4	0.0	53.0	55.9
Lebanon	2011	562	12.2	12.2	54.5	20.1	6.3	6.8	0.0	11.6	13.0
	2015	539	15.4	15.4	53.1	16.5	5.4	8.9	0.7	15.2	15.8
Lithuania	2011	686	27.9	27.9	41.7	20.3	8.3	1.6	0.2	26.0	29.7
	2015	617	34.1	34.1	34.3	18.7	11.4	1.5	0.0	38.5	29.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_03 (S042016): Biology / Knowing Type: MC Key: A
Label: Organelle that produces energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	12.6	12.6	47.5	24.9	13.1	1.5	0.2	12.2	13.1
	2015	1376	12.9	12.9	41.3	30.4	14.1	1.2	0.1	14.5	11.1
Morocco	2011	1170	3.9	3.9	57.7	27.5	4.0	5.4	1.5	2.2	5.4
	2015	1897	4.8	4.8	59.3	24.1	7.9	3.5	0.3	5.1	4.6
New Zealand	2011	751	14.0	14.0	50.5	24.0	9.6	1.8	0.2	10.8	16.9
	2015	1181	15.8	15.8	47.5	24.2	10.6	2.0	0.0	15.1	16.6
Oman	2011	1379	34.0	34.0	35.9	16.9	10.7	2.3	0.1	41.2	26.7
	2015	1288	38.7	38.7	30.5	17.9	10.5	2.3	0.1	47.6	30.1
Qatar	2011	632	16.4	16.4	50.0	20.8	11.3	1.6	0.0	16.6	16.2
	2015	760	26.2	26.2	46.7	13.9	10.4	1.9	0.9	28.2	24.0
Russian Federation	2011	704	42.4	42.4	32.9	14.9	6.6	3.1	0.1	37.1	47.3
	2015	683	45.8	45.8	29.2	16.2	6.8	2.1	0.0	48.9	42.8
Saudi Arabia	2011	688	36.6	36.6	43.7	9.8	9.2	0.6	0.0	41.4	32.2
	2015	542	26.7	26.7	51.6	8.6	11.7	1.5	0.0	29.9	23.3
Singapore	2011	840	42.5	42.5	32.8	13.9	10.2	0.6	0.1	41.9	43.1
	2015	879	49.9	49.9	24.3	14.5	10.9	0.3	0.1	51.5	48.4
Slovenia	2011	626	13.1	13.1	48.2	22.5	13.1	3.1	0.0	17.8	8.8
	2015	607	48.8	48.8	29.9	12.6	7.1	1.6	0.0	49.9	47.6
South Africa	2011	1701	17.0	17.0	54.6	18.1	8.4	1.5	0.3	17.7	16.4
	2015	1754	21.9	21.9	45.2	17.5	13.2	1.3	0.8	23.4	20.4
Sweden	2011	803	21.3	21.3	48.3	19.8	6.6	3.7	0.2	18.1	24.3
	2015	582	29.1	29.1	40.5	23.2	4.4	2.7	0.2	30.8	27.3
Thailand	2011	877	13.6	13.6	42.0	28.0	10.0	6.5	0.0	14.2	12.8
	2015	926	16.0	16.0	37.2	32.2	10.7	3.8	0.1	16.8	15.1
Turkey	2011	990	52.2	52.2	21.5	19.4	5.8	1.2	0.0	59.9	45.6
	2015	865	51.9	51.9	21.8	18.1	7.0	1.2	0.0	56.7	47.7
United Arab Emirates	2011	2012	28.9	28.9	47.5	14.6	7.5	1.4	0.1	30.9	26.9
	2015	2555	33.0	33.0	42.3	15.1	8.0	1.5	0.1	34.2	31.8
United States	2011	1499	36.0	36.0	42.7	13.2	6.9	1.1	0.1	34.8	37.4
	2015	1432	44.8	44.8	34.9	13.2	5.8	1.0	0.3	45.4	44.3

International Avg (n=33)	2011	28473	25.6	25.6	44.3	19.9	8.0	2.2	0.1	25.6	25.5
	2015	31152	31.2	31.2	39.6	18.8	8.0	2.1	0.2	32.7	29.8

Ontario, Canada	2011	671	30.0	30.0	39.3	17.6	12.1	1.0	0.0	26.9	33.0
	2015	648	41.6	41.6	31.9	15.2	9.8	0.9	0.6	42.6	40.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_03 (S042016): Biology / Knowing Type: MC Key: A
Label: Organelle that produces energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	10.4	10.4	48.8	24.3	12.8	3.4	0.3	12.0	8.7
	2015	565	30.6	30.6	48.9	10.2	9.5	0.8	0.1	26.1	35.9
Norway (8)	2011	565	24.1	24.1	56.2	13.6	4.0	1.7	0.3	19.4	28.0
	2015	689	32.0	32.0	52.7	9.3	3.4	2.3	0.3	31.0	33.0
Abu Dhabi, UAE	2011	636	29.2	29.2	47.4	13.4	9.1	0.7	0.2	26.4	31.8
	2015	685	27.1	27.1	44.4	17.6	8.9	1.9	0.1	32.0	21.9
Dubai, UAE	2011	787	31.9	31.9	40.4	18.1	6.6	2.9	0.1	37.3	26.9
	2015	869	46.3	46.3	31.9	13.0	8.0	0.7	0.0	42.2	50.8
Florida, US	2011	241	35.7	35.7	41.1	16.2	6.5	0.5	0.0	32.9	38.4
	2015	288	42.4	42.4	34.1	16.4	5.7	0.9	0.5	42.9	42.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_04A (S042300A): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: animals

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	47.2	46.1	6.7	0.0	47.2	43.4	50.9
	2015	1487	47.1	45.9	6.6	0.4	47.1	44.9	49.3
Bahrain	2011	658	55.8	40.9	3.1	0.2	55.8	62.1	49.1
	2015	701	49.2	47.0	3.7	0.0	49.2	56.3	42.3
Botswana	2011	768	27.0	69.5	3.2	0.2	27.0	27.1	27.0
	2015	848	27.6	67.0	4.8	0.7	27.6	29.4	25.6
Chile	2011	825	28.5	66.8	4.2	0.4	28.5	24.9	33.2
	2015	701	31.5	59.2	9.4	0.0	31.5	25.9	36.6
Chinese Taipei	2011	718	72.6	26.7	0.6	0.0	72.6	72.5	72.7
	2015	815	73.9	25.2	0.9	0.0	73.9	70.9	76.9
England	2011	541	53.9	41.4	4.7	0.0	53.9	51.8	55.8
	2015	685	49.1	47.0	3.7	0.1	49.1	48.4	49.8
Georgia	2011	650	42.4	36.9	20.1	0.6	42.4	49.2	35.1
	2015	569	44.0	40.4	14.6	1.0	44.0	43.5	44.5
Hong Kong SAR	2011	576	67.4	31.2	1.4	0.0	67.4	67.8	67.0
	2015	596	70.3	27.9	1.8	0.0	70.3	69.9	70.7
Hungary	2011	739	64.1	32.9	3.0	0.0	64.1	59.4	68.7
	2015	692	66.8	30.8	2.3	0.0	66.8	61.4	71.7
Iran, Islamic Rep. of	2011	856	40.2	56.0	3.8	0.0	40.2	39.5	40.9
	2015	879	41.5	51.8	6.1	0.6	41.5	42.0	41.1
Israel	2011	689	55.9	39.3	4.4	0.3	55.9	57.1	54.7
	2015	782	55.0	40.1	4.0	0.9	55.0	54.0	55.9
Italy	2011	560	45.6	49.3	4.9	0.2	45.6	44.2	46.8
	2015	640	47.7	48.4	3.4	0.5	47.7	47.5	48.0
Japan	2011	624	84.3	14.0	1.7	0.0	84.3	84.4	84.2
	2015	680	85.0	12.7	2.3	0.0	85.0	86.4	83.6
Jordan	2011	1093	45.3	51.9	2.8	0.0	45.3	47.3	43.4
	2015	1128	41.0	54.6	4.0	0.3	41.0	43.5	38.7
Kazakhstan	2011	629	44.8	47.8	7.4	0.0	44.8	44.9	44.6
	2015	705	59.8	35.4	4.3	0.6	59.8	55.6	63.6
Korea, Rep. of	2011	739	63.8	35.1	1.1	0.0	63.8	63.3	64.4
	2015	761	65.3	32.6	2.1	0.0	65.3	63.9	66.6
Lebanon	2011	566	48.6	48.9	2.5	0.0	48.6	46.9	50.6
	2015	545	42.6	44.3	12.4	0.7	42.6	44.1	40.5
Lithuania	2011	686	48.6	48.4	2.9	0.2	48.6	48.8	48.4
	2015	617	50.8	44.9	4.2	0.0	50.8	52.2	49.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04A (S042300A): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: animals

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	39.0	53.2	7.4	0.5	39.0	40.1	37.8
	2015	1376	45.7	50.3	3.8	0.2	45.7	47.1	44.1
Morocco	2011	1170	29.8	62.5	5.9	1.8	29.8	28.2	31.2
	2015	1897	31.8	65.0	2.9	0.3	31.8	29.4	34.2
New Zealand	2011	751	48.1	48.2	3.5	0.2	48.1	40.9	54.6
	2015	1181	45.6	50.3	3.8	0.2	45.6	44.1	47.4
Oman	2011	1379	35.8	56.7	7.3	0.2	35.8	41.0	30.5
	2015	1287	41.6	53.4	4.8	0.2	41.6	47.7	35.6
Qatar	2011	634	41.1	53.8	5.1	0.0	41.1	42.2	39.9
	2015	760	45.9	47.8	5.4	0.9	45.9	46.1	45.7
Russian Federation	2011	704	67.9	25.0	7.0	0.1	67.9	67.9	67.9
	2015	683	70.3	23.1	6.6	0.0	70.3	70.8	69.9
Saudi Arabia	2011	690	30.3	67.4	2.3	0.0	30.3	34.7	26.1
	2015	544	25.0	69.0	5.7	0.4	25.0	27.9	21.9
Singapore	2011	840	81.1	18.0	0.8	0.1	81.1	81.6	80.6
	2015	879	82.5	17.0	0.4	0.1	82.5	86.3	78.8
Slovenia	2011	626	68.9	29.8	1.3	0.0	68.9	64.7	72.6
	2015	607	75.8	22.9	1.3	0.0	75.8	76.3	75.3
South Africa	2011	1701	17.9	77.3	4.2	0.6	17.9	18.6	17.2
	2015	1754	23.8	72.2	3.1	1.0	23.8	23.5	24.0
Sweden	2011	803	44.6	45.0	10.0	0.4	44.6	46.3	43.0
	2015	582	51.9	43.3	4.5	0.2	51.9	52.4	51.3
Thailand	2011	877	34.7	58.7	6.4	0.1	34.7	35.9	33.3
	2015	926	34.0	60.1	5.8	0.1	34.0	35.8	32.1
Turkey	2011	990	55.5	42.2	2.3	0.0	55.5	55.3	55.6
	2015	865	53.0	45.0	2.0	0.0	53.0	52.2	53.8
United Arab Emirates	2011	2012	46.3	50.5	3.0	0.1	46.3	46.3	46.4
	2015	2555	48.4	48.0	3.5	0.1	48.4	50.4	46.3
United States	2011	1499	48.4	48.1	3.4	0.2	48.4	45.5	51.7
	2015	1432	50.7	46.8	2.2	0.4	50.7	45.9	55.5
International Avg (n=33)	2011	28480	49.2	46.0	4.5	0.2	49.2	49.2	49.3
	2015	31159	50.7	44.5	4.4	0.3	50.7	50.8	50.6
Ontario, Canada	2011	671	46.7	47.9	5.1	0.3	46.7	44.9	48.5
	2015	650	48.6	46.1	4.6	0.7	48.6	49.9	47.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04A (S042300A): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: animals

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	45.0	51.5	3.1	0.3	45.0	42.2	48.2
	2015	565	46.9	50.6	2.4	0.1	46.9	39.5	55.8
Norway (8)	2011	565	38.3	52.9	8.4	0.4	38.3	36.2	40.1
	2015	689	32.2	57.4	9.7	0.7	32.2	30.3	34.1
Abu Dhabi, UAE	2011	636	46.3	51.5	2.0	0.2	46.3	43.2	49.1
	2015	685	38.8	57.8	3.3	0.1	38.8	41.1	36.3
Dubai, UAE	2011	787	54.4	41.5	3.8	0.3	54.4	53.8	54.9
	2015	869	63.7	32.9	3.4	0.0	63.7	64.7	62.6
Florida, US	2011	241	55.9	40.1	4.0	0.0	55.9	52.7	58.9
	2015	288	44.6	52.2	2.7	0.5	44.6	37.0	50.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04B (S042300B): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: plants

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	11.4	82.5	6.1	0.0	11.4	12.2	10.6
	2015	1487	11.5	82.2	5.7	0.6	11.5	12.5	10.5
Bahrain	2011	658	11.3	85.9	2.6	0.2	11.3	13.9	8.6
	2015	701	17.6	78.5	3.8	0.1	17.6	17.4	17.7
Botswana	2011	768	16.7	79.6	3.4	0.3	16.7	18.4	14.7
	2015	848	16.5	77.6	4.9	1.0	16.5	19.3	13.5
Chile	2011	825	10.6	84.6	4.3	0.4	10.6	11.3	9.8
	2015	701	8.0	82.9	9.0	0.0	8.0	8.9	7.3
Chinese Taipei	2011	718	38.1	61.5	0.4	0.0	38.1	36.2	39.9
	2015	815	34.8	64.6	0.6	0.0	34.8	32.5	37.1
England	2011	541	13.2	82.7	3.9	0.2	13.2	14.3	12.2
	2015	685	13.4	83.1	3.3	0.2	13.4	13.4	13.3
Georgia	2011	650	15.7	62.6	21.1	0.6	15.7	20.7	10.3
	2015	569	11.2	71.1	16.7	1.0	11.2	13.8	8.6
Hong Kong SAR	2011	576	45.8	52.8	1.5	0.0	45.8	43.9	47.7
	2015	596	47.4	51.0	1.6	0.0	47.4	43.7	50.6
Hungary	2011	739	9.7	86.9	3.3	0.0	9.7	9.5	10.0
	2015	692	10.1	87.4	2.5	0.0	10.1	11.6	8.7
Iran, Islamic Rep. of	2011	856	10.9	85.5	3.6	0.0	10.9	12.9	9.2
	2015	879	8.2	84.6	6.3	0.9	8.2	9.4	7.1
Israel	2011	689	26.1	69.1	4.4	0.4	26.1	24.5	27.8
	2015	782	16.4	78.5	3.8	1.2	16.4	16.8	16.1
Italy	2011	560	15.8	79.2	4.9	0.2	15.8	17.0	14.6
	2015	640	16.3	80.0	3.2	0.5	16.3	16.3	16.3
Japan	2011	624	54.9	43.4	1.7	0.0	54.9	53.1	56.5
	2015	680	54.4	43.4	2.2	0.0	54.4	50.6	58.5
Jordan	2011	1093	18.5	78.7	2.7	0.1	18.5	20.5	16.6
	2015	1128	16.3	79.2	3.9	0.6	16.3	19.0	13.8
Kazakhstan	2011	629	16.7	75.8	7.5	0.0	16.7	18.5	15.0
	2015	705	38.3	56.9	4.2	0.6	38.3	37.4	39.1
Korea, Rep. of	2011	739	27.9	71.3	0.8	0.0	27.9	27.1	28.7
	2015	761	22.6	75.9	1.5	0.0	22.6	18.5	26.2
Lebanon	2011	566	29.6	67.5	2.9	0.0	29.6	31.0	28.0
	2015	545	17.2	69.6	12.6	0.7	17.2	16.5	18.0
Lithuania	2011	686	10.5	86.3	3.0	0.2	10.5	12.3	8.9
	2015	617	16.2	79.9	3.9	0.0	16.2	18.8	13.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04B (S042300B): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: plants

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	16.4	75.8	6.9	0.9	16.4	18.7	14.0
	2015	1376	15.4	80.7	3.7	0.2	15.4	17.4	13.1
Morocco	2011	1170	10.7	81.6	5.8	1.8	10.7	11.9	9.6
	2015	1897	9.6	87.2	2.7	0.6	9.6	10.6	8.6
New Zealand	2011	0	.	.	.	.	.	.	.
	2015	1181	8.4	87.7	3.7	0.2	8.4	9.6	7.0
Oman	2011	1379	19.3	72.4	8.1	0.2	19.3	25.7	12.9
	2015	1288	22.2	73.7	3.6	0.4	22.2	26.6	18.1
Qatar	2011	634	21.1	73.1	5.8	0.0	21.1	23.4	18.8
	2015	760	18.6	75.3	5.1	0.9	18.6	20.0	17.1
Russian Federation	2011	704	23.8	69.9	6.2	0.1	23.8	23.8	23.8
	2015	683	26.3	67.2	6.3	0.2	26.3	26.0	26.6
Saudi Arabia	2011	690	12.5	84.4	3.0	0.0	12.5	15.1	10.1
	2015	544	9.6	84.4	5.5	0.5	9.6	10.1	9.1
Singapore	2011	840	67.9	31.6	0.4	0.1	67.9	66.8	69.0
	2015	879	67.4	32.3	0.2	0.1	67.4	69.2	65.6
Slovenia	2011	626	20.5	77.8	1.7	0.0	20.5	23.4	17.9
	2015	607	21.0	78.1	1.0	0.0	21.0	22.4	19.4
South Africa	2011	1701	15.1	79.7	4.5	0.7	15.1	16.3	13.9
	2015	1754	15.6	79.8	3.1	1.4	15.6	16.6	14.4
Sweden	2011	803	9.6	82.1	7.9	0.4	9.6	10.3	8.9
	2015	582	10.5	85.1	4.1	0.3	10.5	13.3	7.7
Thailand	2011	877	11.6	82.1	6.2	0.1	11.6	11.9	11.3
	2015	926	13.1	80.9	5.9	0.1	13.1	15.7	10.2
Turkey	2011	990	26.0	71.4	2.6	0.0	26.0	31.5	21.2
	2015	865	23.2	74.4	2.2	0.2	23.2	27.5	19.4
United Arab Emirates	2011	2012	21.0	76.0	2.7	0.2	21.0	22.4	19.7
	2015	2555	20.9	75.5	3.4	0.2	20.9	22.8	19.0
United States	2011	0	.	.	.	.	.	.	.
	2015	1432	11.7	85.8	2.1	0.4	11.7	13.6	9.8
International Avg (n=33)	2011	26230	21.3	74.0	4.5	0.2	21.3	22.5	20.0
	2015	31160	20.3	75.0	4.3	0.4	20.3	21.1	19.4
Ontario, Canada	2011	671	11.7	83.0	4.9	0.4	11.7	11.0	12.4
	2015	650	8.1	86.7	4.5	0.7	8.1	11.5	4.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04B (S042300B): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: plants

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	8.0	88.8	2.8	0.3	8.0	7.8	8.3
	2015	565	11.4	85.9	1.9	0.8	11.4	8.1	15.3
Norway (8)	2011	565	12.1	79.1	8.4	0.4	12.1	14.0	10.6
	2015	689	11.9	78.3	9.1	0.7	11.9	12.2	11.7
Abu Dhabi, UAE	2011	636	20.4	77.9	1.4	0.3	20.4	19.5	21.2
	2015	685	18.1	77.8	4.0	0.1	18.1	22.9	13.2
Dubai, UAE	2011	787	22.8	72.9	4.1	0.3	22.8	27.1	18.9
	2015	869	28.5	68.2	3.2	0.1	28.5	27.3	29.8
Florida, US	2011	192	8.3	88.9	2.9	0.0	8.3	8.8	7.8
	2015	288	8.1	88.7	2.7	0.5	8.1	9.6	6.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04C (S042300C): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: photosyn.

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	47.9	45.7	6.4	0.0	47.9	46.6	49.3
	2015	1487	47.8	45.1	6.5	0.6	47.8	47.9	47.8
Bahrain	2011	658	43.7	53.2	2.8	0.2	43.7	52.7	34.4
	2015	701	46.4	49.1	4.4	0.1	46.4	54.9	38.0
Botswana	2011	768	28.2	68.1	3.4	0.3	28.2	28.5	27.8
	2015	848	32.6	61.7	4.4	1.3	32.6	35.6	29.3
Chile	2011	825	32.8	61.3	5.5	0.4	32.8	30.4	35.8
	2015	701	34.2	56.0	9.8	0.0	34.2	29.3	38.8
Chinese Taipei	2011	718	71.5	28.1	0.4	0.0	71.5	72.4	70.7
	2015	815	72.2	27.1	0.7	0.0	72.2	69.5	74.8
England	2011	541	51.7	43.9	4.1	0.2	51.7	51.2	52.2
	2015	685	51.1	45.0	3.7	0.2	51.1	49.5	52.6
Georgia	2011	650	31.5	44.2	23.7	0.6	31.5	36.7	25.9
	2015	569	32.1	49.5	17.4	1.0	32.1	30.1	34.1
Hong Kong SAR	2011	576	66.5	31.7	1.8	0.0	66.5	65.1	68.1
	2015	596	70.1	28.4	1.4	0.0	70.1	67.4	72.5
Hungary	2011	739	51.9	42.6	5.6	0.0	51.9	49.5	54.2
	2015	692	52.9	42.8	4.2	0.0	52.9	49.1	56.4
Iran, Islamic Rep. of	2011	856	22.7	72.3	4.9	0.0	22.7	22.1	23.3
	2015	879	30.1	60.3	8.7	0.9	30.1	30.8	29.5
Israel	2011	689	53.0	40.9	5.7	0.4	53.0	54.9	51.1
	2015	782	50.4	43.8	4.6	1.2	50.4	46.9	53.5
Italy	2011	560	43.5	50.6	5.8	0.2	43.5	40.8	46.0
	2015	640	46.1	49.8	3.6	0.5	46.1	47.1	45.2
Japan	2011	624	75.2	21.8	3.1	0.0	75.2	74.9	75.4
	2015	680	76.0	21.0	3.0	0.0	76.0	77.2	74.6
Jordan	2011	1093	40.9	55.8	3.2	0.1	40.9	46.9	34.9
	2015	1128	37.8	57.1	4.5	0.6	37.8	41.5	34.4
Kazakhstan	2011	629	42.4	47.0	10.6	0.0	42.4	43.0	41.8
	2015	705	58.1	35.5	5.7	0.6	58.1	55.4	60.8
Korea, Rep. of	2011	739	51.9	46.4	1.7	0.0	51.9	51.5	52.5
	2015	761	57.9	39.1	3.0	0.0	57.9	54.2	61.2
Lebanon	2011	566	44.8	50.7	4.5	0.0	44.8	42.5	47.5
	2015	545	35.9	48.5	14.9	0.7	35.9	38.5	32.3
Lithuania	2011	686	46.5	48.3	5.0	0.2	46.5	47.5	45.5
	2015	617	48.3	46.4	5.3	0.0	48.3	51.0	45.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04C (S042300C): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: photosyn.

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	40.0	51.9	7.2	0.9	40.0	41.5	38.4
	2015	1376	47.5	47.8	4.4	0.2	47.5	47.7	47.4
Morocco	2011	1170	17.8	71.2	9.1	1.9	17.8	15.8	19.5
	2015	1897	23.3	71.0	5.1	0.6	23.3	23.2	23.4
New Zealand	2011	751	49.5	45.1	5.2	0.2	49.5	44.9	53.8
	2015	1181	48.3	47.7	3.8	0.2	48.3	48.8	47.6
Oman	2011	1379	33.3	58.5	8.0	0.2	33.3	40.8	25.7
	2015	1286	41.8	52.3	5.5	0.4	41.8	48.6	35.3
Qatar	2011	634	38.3	56.0	5.7	0.0	38.3	43.0	33.5
	2015	760	45.8	47.4	5.8	0.9	45.8	47.7	43.8
Russian Federation	2011	704	55.7	34.1	10.1	0.1	55.7	57.9	53.6
	2015	683	61.0	30.8	8.0	0.3	61.0	62.8	59.2
Saudi Arabia	2011	690	25.5	70.3	4.2	0.0	25.5	30.6	20.8
	2015	544	22.5	70.2	6.9	0.5	22.5	24.5	20.5
Singapore	2011	840	80.9	18.4	0.6	0.1	80.9	79.0	82.7
	2015	879	80.8	18.5	0.5	0.1	80.8	83.3	78.5
Slovenia	2011	626	68.6	29.0	2.5	0.0	68.6	63.4	73.2
	2015	607	71.4	27.2	1.5	0.0	71.4	71.5	71.1
South Africa	2011	1701	22.1	72.2	4.9	0.7	22.1	20.3	23.9
	2015	1754	29.3	66.2	3.0	1.5	29.3	28.7	29.9
Sweden	2011	803	46.0	43.9	9.6	0.4	46.0	48.3	43.9
	2015	582	55.5	41.0	3.3	0.3	55.5	58.1	52.8
Thailand	2011	877	32.3	60.3	7.3	0.1	32.3	33.7	30.7
	2015	926	32.5	61.5	5.9	0.1	32.5	38.2	26.3
Turkey	2011	990	50.1	47.1	2.7	0.1	50.1	50.7	49.6
	2015	865	48.2	49.5	2.1	0.2	48.2	49.3	47.3
United Arab Emirates	2011	2012	45.5	51.2	3.1	0.2	45.5	47.8	43.2
	2015	2555	48.6	47.5	3.7	0.2	48.6	52.1	44.9
United States	2011	1499	50.8	45.2	3.8	0.2	50.8	52.0	49.4
	2015	1432	53.5	44.0	2.1	0.4	53.5	52.9	54.1
International Avg (n=33)	2011	28480	45.5	48.7	5.5	0.2	45.5	46.3	44.8
	2015	31158	48.2	46.3	5.1	0.4	48.2	48.9	47.4
Ontario, Canada	2011	671	48.3	46.6	4.8	0.4	48.3	45.2	51.2
	2015	650	52.8	42.2	4.2	0.7	52.8	54.6	51.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_04C (S042300C): Biology / Applying Type: CR 1 Point
Label: O2-CO2 release-removal: photosyn.

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	44.5	50.6	4.5	0.3	44.5	41.4	48.0
	2015	565	46.1	51.1	1.9	0.8	46.1	39.4	54.2
Norway (8)	2011	565	45.3	46.7	7.7	0.4	45.3	43.7	46.5
	2015	689	42.3	47.9	9.1	0.7	42.3	40.8	43.7
Abu Dhabi, UAE	2011	636	44.4	53.5	1.8	0.3	44.4	42.6	46.1
	2015	685	42.6	53.4	3.9	0.1	42.6	51.0	33.9
Dubai, UAE	2011	787	52.4	42.6	4.7	0.3	52.4	56.4	48.8
	2015	869	59.4	37.1	3.4	0.1	59.4	58.5	60.4
Florida, US	2011	241	53.6	41.7	4.7	0.0	53.6	51.9	55.2
	2015	288	47.6	49.2	2.7	0.5	47.6	44.8	49.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_05 (S042319): Biology / Reasoning Type: CR 1 Point
Label: Designing plant growth experiment

COUNTRY	Year	N	10 %	11 %	12 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	8.7	3.2	25.9	45.5	16.7	0.0	37.8	42.2	33.5
	2015	1487	5.3	1.9	23.0	53.3	15.9	0.6	30.2	33.5	26.8
Bahrain	2011	658	7.8	3.9	14.5	50.1	23.4	0.2	26.3	32.9	19.4
	2015	701	9.0	5.9	15.0	52.8	17.1	0.1	30.0	39.6	20.5
Botswana	2011	768	1.5	0.9	4.1	81.1	12.0	0.5	6.5	8.3	4.4
	2015	848	1.5	0.5	1.7	83.2	11.7	1.3	3.7	4.1	3.3
Chile	2011	825	3.2	0.8	12.4	49.6	33.6	0.4	16.4	17.6	14.9
	2015	701	2.0	0.8	13.9	39.3	43.9	0.0	16.8	16.0	17.6
Chinese Taipei	2011	718	12.8	2.9	31.9	40.5	12.0	0.0	47.5	53.5	41.7
	2015	815	9.3	1.9	38.6	35.6	14.4	0.0	49.9	53.1	46.8
England	2011	541	22.5	5.6	21.7	36.4	13.5	0.2	49.9	54.2	45.9
	2015	685	16.3	9.6	25.2	29.6	19.1	0.2	51.1	57.6	44.6
Georgia	2011	641	1.7	0.6	0.7	44.9	51.4	0.8	3.0	2.8	3.2
	2015	569	0.4	0.5	4.6	54.1	39.4	1.0	5.6	6.6	4.5
Hong Kong SAR	2011	576	17.3	7.7	24.5	35.0	15.5	0.0	49.6	56.3	42.5
	2015	596	18.8	2.6	29.3	35.7	13.6	0.0	50.7	54.5	47.3
Hungary	2011	739	4.9	0.8	19.8	55.1	19.5	0.0	25.5	29.0	22.1
	2015	692	3.0	0.3	23.1	50.9	22.8	0.0	26.4	25.0	27.6
Iran, Islamic Rep. of	2011	855	8.7	0.6	5.9	68.4	16.5	0.0	15.1	15.1	15.1
	2015	879	4.9	1.0	10.0	63.2	20.1	0.9	15.8	18.9	13.1
Israel	2011	689	27.8	2.5	19.7	30.8	18.8	0.4	50.0	53.5	46.3
	2015	782	20.3	4.2	17.2	40.4	16.8	1.2	41.6	46.3	37.4
Italy	2011	560	4.1	1.1	7.5	50.9	36.3	0.2	12.7	13.4	12.0
	2015	639	1.0	0.2	13.0	51.1	34.2	0.5	14.2	16.6	11.9
Japan	2011	624	24.4	1.5	41.5	22.2	10.3	0.0	67.4	71.9	63.3
	2015	680	10.1	1.4	49.6	26.1	12.8	0.0	61.1	66.1	55.7
Jordan	2011	1093	5.5	1.7	5.7	76.1	10.9	0.1	12.9	17.7	8.1
	2015	1128	1.8	0.9	5.5	73.2	18.0	0.6	8.2	11.3	5.3
Kazakhstan	2011	629	19.8	4.5	9.9	44.8	21.0	0.0	34.2	34.0	34.4
	2015	706	32.2	0.4	2.2	49.8	14.8	0.6	34.8	38.1	31.8
Korea, Rep. of	2011	739	18.2	1.2	37.2	33.3	10.1	0.0	56.6	64.2	48.5
	2015	761	16.0	1.1	27.8	46.1	9.0	0.0	45.0	49.2	41.2
Lebanon	2011	566	5.9	0.7	4.2	51.7	37.4	0.0	10.8	10.5	11.2
	2015	545	2.4	0.2	6.1	50.3	40.4	0.7	8.7	9.9	7.1
Lithuania	2011	686	3.3	0.5	37.4	45.3	13.3	0.2	41.2	43.7	38.9
	2015	617	2.0	0.3	43.0	43.4	11.3	0.0	45.3	46.3	44.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_05 (S042319): Biology / Reasoning Type: CR 1 Point
Label: Designing plant growth experiment

COUNTRY	Year	N	10 %	11 %	12 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	3.8	0.4	8.7	63.6	22.5	0.9	13.0	12.2	13.8
	2015	1376	3.1	1.4	8.3	62.2	24.5	0.5	12.8	15.4	9.9
Morocco	2011	1170	1.5	0.5	1.5	56.8	37.7	2.1	3.5	3.6	3.3
	2015	1897	0.0	0.1	3.4	61.0	34.9	0.6	3.5	3.7	3.2
New Zealand	2011	751	17.1	4.4	15.5	45.6	17.3	0.2	37.0	40.4	33.8
	2015	1181	10.8	2.3	22.9	43.0	20.8	0.2	36.0	42.2	28.7
Oman	2011	1379	6.0	4.8	4.6	64.8	19.5	0.3	15.4	23.7	7.1
	2015	1287	3.3	2.3	5.8	72.5	15.3	0.8	11.4	15.9	7.2
Qatar	2011	634	2.6	2.8	5.7	66.6	22.2	0.0	11.2	13.1	9.2
	2015	760	7.2	2.5	13.7	50.8	24.8	1.0	23.5	26.1	20.6
Russian Federation	2011	704	2.5	0.3	19.7	53.7	23.8	0.1	22.4	23.5	21.5
	2015	683	2.4	2.3	23.6	42.6	28.7	0.3	28.4	30.9	25.8
Saudi Arabia	2011	690	1.4	0.3	2.8	77.5	18.0	0.0	4.5	5.8	3.2
	2015	545	3.4	1.7	7.4	59.3	27.7	0.5	12.5	15.4	9.5
Singapore	2011	840	16.1	6.4	34.6	35.6	7.1	0.1	57.1	61.3	53.2
	2015	879	33.7	9.6	20.3	30.1	6.3	0.1	63.6	70.3	57.1
Slovenia	2011	626	3.3	3.2	5.5	69.2	18.8	0.0	12.0	13.6	10.5
	2015	607	18.4	17.6	4.8	39.1	20.2	0.0	40.8	46.8	34.3
South Africa	2011	1701	1.8	1.2	5.3	64.2	26.7	0.7	8.4	9.5	7.3
	2015	1754	0.9	0.9	1.2	72.4	23.1	1.5	3.0	3.5	2.4
Sweden	2011	803	5.1	1.1	13.8	44.7	34.8	0.4	20.1	26.0	14.5
	2015	582	8.7	0.9	25.2	37.8	27.2	0.3	34.7	44.4	25.0
Thailand	2011	877	3.3	0.4	9.9	52.3	34.0	0.1	13.5	16.1	10.6
	2015	926	4.4	0.5	12.1	56.4	26.5	0.1	17.0	17.7	16.2
Turkey	2011	990	7.3	0.8	14.1	60.1	17.7	0.1	22.1	25.9	18.9
	2015	865	7.1	2.5	13.0	66.2	11.1	0.2	22.5	27.0	18.6
United Arab Emirates	2011	2012	3.5	1.1	11.4	67.6	16.1	0.2	16.1	19.7	12.4
	2015	2555	3.3	2.0	10.0	67.9	16.6	0.2	15.3	16.9	13.8
United States	2011	1499	5.2	2.1	30.9	54.7	6.9	0.2	38.2	42.2	33.7
	2015	1432	5.9	3.2	28.9	54.8	6.7	0.4	38.1	41.2	35.0

International Avg (n=33)	2011	28470	8.4	2.1	15.4	52.7	21.1	0.3	26.0	29.0	23.0
	2015	31160	8.2	2.5	16.6	51.3	20.9	0.4	27.3	30.6	24.1

Ontario, Canada	2011	671	12.5	3.4	18.5	46.2	18.9	0.5	34.4	39.9	29.0
	2015	650	3.2	2.5	26.8	51.0	15.7	0.7	32.5	35.0	30.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_05 (S042319): Biology / Reasoning Type: CR 1 Point
Label: Designing plant growth experiment

COUNTRY	Year	N	10 %	11 %	12 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	16.9	3.0	23.8	41.8	14.2	0.3	43.6	49.5	37.1
	2015	565	1.1	0.5	34.8	51.4	11.3	0.8	36.5	39.1	33.3
Norway (8)	2011	565	4.0	0.5	12.6	60.4	22.1	0.4	17.1	22.0	13.1
	2015	689	1.0	1.1	14.7	56.0	26.5	0.7	16.8	20.6	13.1
Abu Dhabi, UAE	2011	636	2.9	0.9	12.3	70.3	13.3	0.3	16.1	19.3	13.2
	2015	685	2.0	1.6	8.9	70.8	16.5	0.1	12.5	16.0	8.9
Dubai, UAE	2011	787	3.8	2.1	12.5	58.0	23.4	0.3	18.3	21.5	15.4
	2015	869	6.9	4.2	14.3	61.4	13.1	0.1	25.4	23.3	27.8
Florida, US	2011	241	7.3	3.9	22.4	53.2	13.3	0.0	33.5	38.6	28.8
	2015	288	5.0	4.9	23.8	55.3	10.5	0.5	33.7	37.5	30.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_06 (S042068): Chemistry / Knowing Type: MC Key: A
Label: Which one is a mixture

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	22.6	22.6	27.6	24.4	21.9	3.4	0.0	22.3	22.9
	2015	1487	22.2	22.2	30.7	23.0	21.2	2.2	0.6	24.5	19.9
Bahrain	2011	658	42.1	42.1	19.7	15.3	20.9	1.6	0.4	47.2	36.8
	2015	701	34.6	34.6	22.0	19.7	21.6	2.0	0.1	40.1	29.2
Botswana	2011	768	57.6	57.6	14.7	11.7	14.0	1.4	0.6	60.5	54.5
	2015	847	41.2	41.2	20.8	19.0	16.5	1.1	1.3	40.7	41.8
Chile	2011	826	15.8	15.8	26.7	30.9	25.0	1.1	0.4	17.3	13.9
	2015	701	11.8	11.8	30.1	31.9	24.2	1.5	0.4	11.6	12.0
Chinese Taipei	2011	718	72.0	72.0	9.5	12.5	5.7	0.2	0.0	74.7	69.4
	2015	815	70.9	70.9	8.0	13.7	6.8	0.6	0.0	70.9	70.9
England	2011	541	34.5	34.5	24.6	20.3	18.5	1.9	0.2	34.6	34.4
	2015	685	37.1	37.1	23.9	14.9	21.3	2.4	0.3	42.7	31.5
Georgia	2011	647	22.1	22.1	9.2	33.3	31.8	2.9	0.8	20.4	23.8
	2015	569	51.3	51.3	12.1	14.9	19.5	1.3	1.0	52.3	50.3
Hong Kong SAR	2011	576	47.3	47.3	10.5	24.7	17.5	0.0	0.0	47.9	46.8
	2015	596	49.1	49.1	12.2	24.2	14.3	0.2	0.0	50.7	47.6
Hungary	2011	739	53.4	53.4	20.8	9.6	13.7	2.6	0.0	55.0	51.8
	2015	692	57.1	57.1	14.6	11.6	13.7	3.0	0.0	55.9	58.3
Iran, Islamic Rep. of	2011	856	34.8	34.8	16.2	27.1	19.9	1.9	0.2	37.8	32.2
	2015	879	41.5	41.5	16.5	22.1	17.8	0.8	1.3	43.0	40.1
Israel	2011	689	56.8	56.8	18.3	11.0	12.6	0.7	0.5	54.3	59.5
	2015	782	56.2	56.2	16.9	14.3	9.8	1.5	1.3	59.1	53.6
Italy	2011	560	25.1	25.1	22.5	24.7	26.0	1.6	0.2	25.1	25.1
	2015	640	24.1	24.1	27.4	19.5	27.7	0.7	0.5	26.3	22.0
Japan	2011	624	43.1	43.1	31.4	12.8	8.1	4.6	0.0	44.0	42.3
	2015	680	43.5	43.5	20.7	14.3	11.4	10.1	0.0	42.1	45.0
Jordan	2011	1093	34.2	34.2	23.9	22.9	17.2	1.6	0.2	37.4	31.0
	2015	1128	31.9	31.9	22.3	19.5	23.6	2.1	0.6	34.7	29.3
Kazakhstan	2011	629	45.6	45.6	19.8	16.5	16.4	1.4	0.2	47.0	44.3
	2015	706	68.3	68.3	11.5	9.3	9.5	0.6	0.8	66.5	70.0
Korea, Rep. of	2011	739	61.0	61.0	5.6	26.2	7.2	0.0	0.0	63.5	58.3
	2015	761	45.4	45.4	20.2	25.4	7.8	1.2	0.0	50.8	40.6
Lebanon	2011	539	35.0	35.0	32.6	18.6	10.6	3.2	0.0	34.2	36.0
	2015	480	35.3	35.3	31.6	19.7	10.6	2.0	0.7	38.7	30.7
Lithuania	2011	686	34.3	34.3	25.6	14.2	23.5	2.2	0.2	38.7	30.2
	2015	617	43.2	43.2	23.4	15.2	16.1	2.1	0.0	46.5	40.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S01_06 (S042068): Chemistry / Knowing Type: MC Key: A
Label: Which one is a mixture

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	24.8	24.8	21.1	31.0	21.7	0.5	0.9	26.3	23.3
	2015	1376	35.0	35.0	20.1	16.9	27.0	0.3	0.6	39.4	30.2
Morocco	2011	1170	27.2	27.2	29.6	14.8	22.0	4.2	2.1	30.8	24.1
	2015	1898	45.7	45.7	22.7	10.7	16.5	3.8	0.6	49.4	42.4
New Zealand	2011	751	29.2	29.2	27.1	20.5	20.6	2.4	0.2	30.8	27.6
	2015	1181	29.8	29.8	26.1	23.3	17.8	2.8	0.3	32.5	26.6
Oman	2011	1379	35.0	35.0	24.8	16.9	21.2	1.5	0.5	39.8	30.2
	2015	1288	46.7	46.7	18.6	17.1	15.4	1.3	0.9	51.2	42.4
Qatar	2011	633	36.4	36.4	25.5	19.0	17.5	1.6	0.0	40.7	31.9
	2015	760	40.1	40.1	26.8	13.1	17.6	1.2	1.2	38.5	41.8
Russian Federation	2011	703	57.5	57.5	22.4	9.8	7.6	2.6	0.1	56.2	58.7
	2015	683	53.8	53.8	21.0	12.9	10.3	1.6	0.4	52.6	54.9
Saudi Arabia	2011	688	38.8	38.8	23.3	20.3	16.7	1.0	0.0	39.5	38.1
	2015	544	23.5	23.5	31.6	19.9	24.2	0.2	0.5	26.5	20.4
Singapore	2011	840	55.6	55.6	19.7	11.1	13.3	0.1	0.1	56.1	55.2
	2015	879	59.5	59.5	15.8	10.6	13.3	0.6	0.2	62.8	56.3
Slovenia	2011	626	70.8	70.8	10.8	10.9	2.9	4.6	0.0	73.4	68.5
	2015	607	74.2	74.2	10.5	5.6	2.9	6.8	0.0	78.6	69.6
South Africa	2011	1701	13.3	13.3	25.4	30.4	28.5	1.6	0.9	12.9	13.7
	2015	1754	14.8	14.8	26.6	27.2	27.7	1.6	2.1	12.7	17.1
Sweden	2011	803	18.2	18.2	35.4	27.3	14.7	4.0	0.4	17.5	18.8
	2015	582	22.4	22.4	36.4	24.7	11.8	4.2	0.5	24.9	19.8
Thailand	2011	877	19.5	19.5	16.0	48.6	14.9	0.9	0.1	19.8	19.2
	2015	926	26.6	26.6	17.8	38.3	16.2	0.8	0.2	27.5	25.7
Turkey	2011	989	33.6	33.6	21.3	25.1	18.9	1.0	0.1	32.6	34.6
	2015	865	32.1	32.1	31.9	18.9	16.5	0.4	0.2	35.7	28.9
United Arab Emirates	2011	2012	31.7	31.7	26.9	16.9	22.8	1.4	0.2	32.9	30.4
	2015	2555	38.1	38.1	27.5	17.1	14.8	2.3	0.2	41.0	35.2
United States	2011	1499	22.1	22.1	31.2	23.0	22.4	1.2	0.2	22.9	21.1
	2015	1432	23.6	23.6	33.1	20.7	21.1	0.9	0.6	24.6	22.7

International Avg (n=33)	2011	28446	37.9	37.9	21.8	20.7	17.5	1.8	0.3	39.2	36.6
	2015	31096	40.3	40.3	22.2	18.5	16.6	1.9	0.5	42.3	38.4

Ontario, Canada	2011	671	20.8	20.8	19.9	33.0	24.4	1.1	0.6	21.0	20.7
	2015	645	24.0	24.0	23.8	26.4	23.8	1.0	1.0	25.8	22.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_06 (S042068): Chemistry / Knowing Type: MC Key: A
Label: Which one is a mixture

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	22.8	22.8	20.8	32.7	20.4	2.9	0.5	25.0	20.3
	2015	560	27.5	27.5	27.1	23.7	20.3	0.3	1.1	23.5	32.4
Norway (8)	2011	565	22.5	22.5	30.5	26.6	15.2	4.8	0.4	25.1	20.4
	2015	689	23.6	23.6	25.6	26.0	15.8	8.2	0.7	25.8	21.4
Abu Dhabi, UAE	2011	636	27.7	27.7	30.6	15.2	24.4	1.6	0.5	25.7	29.6
	2015	685	34.4	34.4	28.4	17.1	17.7	2.2	0.2	39.6	29.0
Dubai, UAE	2011	787	41.9	41.9	21.9	16.1	18.9	0.9	0.3	44.0	40.1
	2015	869	49.0	49.0	24.9	14.8	9.7	1.6	0.1	45.8	52.4
Florida, US	2011	241	24.2	24.2	25.6	23.5	25.3	1.4	0.0	20.9	27.4
	2015	288	23.1	23.1	29.0	23.7	23.4	0.3	0.5	24.4	22.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_07 (S042216): Physics / Applying Type: MC Key: D
Label: Student reading a book

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	55.0	3.8	36.0	4.2	55.0	1.1	0.0	49.9	60.1
	2015	1487	53.4	3.5	37.7	3.8	53.4	1.0	0.7	51.6	55.3
Bahrain	2011	658	49.5	8.6	34.5	6.3	49.5	0.6	0.5	56.9	41.7
	2015	701	51.2	8.8	28.1	10.1	51.2	1.7	0.1	55.3	47.1
Botswana	2011	768	63.1	6.9	21.1	7.3	63.1	0.5	1.1	60.2	66.4
	2015	847	54.9	9.0	25.6	7.8	54.9	1.0	1.7	56.4	53.3
Chile	2011	826	42.4	3.2	46.3	5.6	42.4	2.0	0.4	41.3	43.8
	2015	701	44.4	4.6	44.3	5.3	44.4	1.1	0.4	44.6	44.2
Chinese Taipei	2011	718	81.8	2.1	14.0	2.1	81.8	0.0	0.0	81.5	82.0
	2015	815	81.2	2.1	15.4	1.0	81.2	0.4	0.0	81.7	80.6
England	2011	541	80.4	2.3	13.6	3.1	80.4	0.4	0.2	84.8	76.3
	2015	685	72.9	5.5	16.2	4.4	72.9	0.8	0.3	75.2	70.5
Georgia	2011	647	40.2	6.6	42.2	7.7	40.2	2.5	0.8	45.3	34.6
	2015	569	40.7	7.9	41.2	5.1	40.7	3.3	1.7	48.9	32.5
Hong Kong SAR	2011	576	61.7	3.0	30.4	4.7	61.7	0.2	0.0	59.5	64.1
	2015	596	69.4	3.5	24.2	2.8	69.4	0.1	0.0	70.4	68.6
Hungary	2011	739	53.7	5.8	35.6	4.3	53.7	0.5	0.0	55.4	52.1
	2015	692	57.8	4.1	33.7	4.3	57.8	0.1	0.0	57.3	58.2
Iran, Islamic Rep. of	2011	856	66.5	5.9	19.3	6.9	66.5	1.1	0.3	72.1	61.7
	2015	879	73.8	5.6	14.1	3.8	73.8	1.1	1.6	78.9	69.2
Israel	2011	689	58.4	6.9	28.5	4.8	58.4	0.8	0.5	56.6	60.3
	2015	782	56.4	7.8	28.4	5.0	56.4	1.1	1.3	59.7	53.4
Italy	2011	560	44.2	5.3	43.5	6.0	44.2	0.8	0.2	43.5	44.8
	2015	640	42.4	6.5	44.2	6.2	42.4	0.1	0.5	40.7	44.1
Japan	2011	624	70.6	2.7	24.8	1.9	70.6	0.0	0.0	72.2	69.1
	2015	680	73.4	2.2	20.8	3.1	73.4	0.5	0.0	78.6	67.9
Jordan	2011	1093	61.5	6.3	21.8	8.8	61.5	1.4	0.2	70.6	52.6
	2015	1128	54.9	8.9	23.0	11.6	54.9	1.0	0.6	62.6	47.6
Kazakhstan	2011	629	39.3	3.9	51.9	3.4	39.3	1.2	0.2	44.0	35.0
	2015	706	54.1	3.6	34.8	6.5	54.1	0.3	0.8	55.6	52.7
Korea, Rep. of	2011	739	84.0	2.5	12.0	1.2	84.0	0.3	0.0	85.0	83.1
	2015	761	88.7	2.8	6.0	1.9	88.7	0.6	0.0	87.6	89.7
Lebanon	2011	563	45.6	8.2	35.7	8.2	45.6	2.3	0.0	46.0	45.1
	2015	538	44.2	6.7	37.8	7.0	44.2	3.6	0.7	46.6	41.1
Lithuania	2011	686	61.6	2.0	31.5	3.8	61.6	0.9	0.2	63.1	60.1
	2015	617	60.5	1.4	35.2	2.8	60.5	0.1	0.0	64.9	56.3

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S01_07 (S042216): Physics / Applying Type: MC Key: D
Label: Student reading a book

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	58.9	3.2	30.7	5.7	58.9	0.5	0.9	64.3	53.4
	2015	1376	56.6	4.4	34.6	3.1	56.6	0.7	0.6	62.9	49.7
Morocco	2011	1170	36.3	7.4	37.3	13.9	36.3	2.7	2.4	37.0	35.8
	2015	1898	54.6	5.8	26.2	10.2	54.6	2.5	0.8	54.3	54.8
New Zealand	2011	751	64.9	4.3	26.4	2.8	64.9	1.5	0.2	63.7	66.0
	2015	1181	66.3	3.0	25.3	4.0	66.3	1.1	0.3	65.6	67.2
Oman	2011	1379	55.8	7.3	26.7	8.8	55.8	0.9	0.5	65.6	45.8
	2015	1285	60.8	4.6	21.6	8.6	60.8	3.6	0.9	69.8	52.1
Qatar	2011	634	68.6	7.7	18.6	4.7	68.6	0.3	0.0	75.8	61.3
	2015	760	75.1	4.9	14.8	3.1	75.1	1.0	1.2	78.8	71.1
Russian Federation	2011	704	52.1	2.1	41.3	3.2	52.1	1.3	0.1	51.7	52.4
	2015	683	54.5	3.0	38.8	2.0	54.5	1.2	0.4	60.3	48.9
Saudi Arabia	2011	689	50.7	9.0	27.1	12.6	50.7	0.6	0.0	53.5	48.0
	2015	543	49.9	9.8	26.3	13.2	49.9	0.3	0.5	50.8	48.9
Singapore	2011	840	86.2	1.4	10.7	1.4	86.2	0.1	0.1	87.3	85.3
	2015	879	90.4	0.9	7.6	0.9	90.4	0.1	0.2	92.5	88.4
Slovenia	2011	626	74.4	3.2	20.1	1.9	74.4	0.5	0.0	77.4	71.6
	2015	607	85.8	1.7	10.7	1.7	85.8	0.1	0.0	87.9	83.5
South Africa	2011	1701	29.8	12.6	35.8	16.6	29.8	4.1	1.0	29.4	30.3
	2015	1754	35.8	9.6	36.0	12.6	35.8	3.5	2.5	38.3	33.1
Sweden	2011	803	58.3	4.1	30.5	4.8	58.3	1.8	0.4	56.5	60.0
	2015	582	58.4	4.7	28.2	5.0	58.4	3.1	0.6	60.8	55.9
Thailand	2011	877	56.4	8.8	32.0	2.0	56.4	0.6	0.3	60.0	52.3
	2015	926	54.8	8.6	32.0	3.5	54.8	0.8	0.3	59.7	49.4
Turkey	2011	990	57.5	6.6	29.5	5.7	57.5	0.6	0.2	61.8	53.7
	2015	865	47.2	11.7	34.3	6.2	47.2	0.3	0.2	52.6	42.5
United Arab Emirates	2011	2012	58.4	7.0	26.2	7.2	58.4	0.8	0.4	59.2	57.7
	2015	2555	62.8	6.9	22.6	6.4	62.8	1.1	0.2	66.6	58.8
United States	2011	1499	59.7	2.5	33.9	3.2	59.7	0.6	0.2	61.9	57.2
	2015	1432	59.2	2.5	33.3	3.4	59.2	0.9	0.8	60.3	58.1

International Avg (n=33)	2011	28474	58.4	5.3	29.4	5.6	58.4	1.0	0.3	60.4	56.5
	2015	31150	60.2	5.3	27.4	5.3	60.2	1.1	0.6	63.0	57.4

Ontario, Canada	2011	671	48.2	3.4	44.3	2.7	48.2	0.6	0.7	47.9	48.5
	2015	649	51.0	2.9	40.7	3.6	51.0	0.5	1.2	52.3	49.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_07 (S042216): Physics / Applying Type: MC Key: D
Label: Student reading a book

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	45.1	1.7	50.6	1.7	45.1	0.4	0.5	46.9	43.1
	2015	564	52.0	2.8	42.8	0.6	52.0	0.7	1.1	49.2	55.5
Norway (8)	2011	565	40.8	5.8	47.6	4.6	40.8	0.9	0.4	42.9	39.1
	2015	689	43.3	7.0	41.4	5.7	43.3	1.7	1.0	44.1	42.4
Abu Dhabi, UAE	2011	636	60.5	6.3	24.9	6.9	60.5	0.9	0.5	58.8	62.2
	2015	685	64.3	7.9	18.5	7.7	64.3	1.5	0.2	71.8	56.5
Dubai, UAE	2011	787	64.8	5.6	24.6	4.4	64.8	0.4	0.3	67.7	62.0
	2015	869	72.0	4.7	19.4	3.2	72.0	0.7	0.1	74.8	68.9
Florida, US	2011	241	58.4	2.0	35.7	3.4	58.4	0.5	0.0	61.5	55.6
	2015	288	62.8	1.6	28.1	6.3	62.8	0.3	0.8	60.1	65.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_08 (S042249): Physics / Knowing Type: MC Key: B
Label: Example of a lever

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	69.7	8.6	69.7	9.8	10.2	1.7	0.0	65.3	74.1
	2015	1487	70.7	10.9	70.7	6.6	10.4	0.8	0.7	69.4	72.0
Bahrain	2011	658	26.4	11.3	26.4	42.8	17.8	1.2	0.5	33.0	19.7
	2015	701	35.4	10.0	35.4	36.8	15.3	2.3	0.1	40.6	30.3
Botswana	2011	768	26.2	28.9	26.2	28.8	13.1	1.6	1.3	23.9	28.8
	2015	843	26.4	25.6	26.4	30.3	13.7	1.7	2.2	23.6	29.3
Chile	2011	826	82.8	8.6	82.8	4.0	3.0	1.0	0.6	80.8	85.4
	2015	701	81.7	8.9	81.7	2.4	4.8	1.6	0.5	81.7	81.7
Chinese Taipei	2011	718	43.5	45.2	43.5	9.0	1.8	0.5	0.0	37.1	49.7
	2015	815	48.8	41.1	48.8	9.1	0.6	0.4	0.0	43.3	54.2
England	2011	541	71.0	8.7	71.0	4.2	14.5	1.4	0.2	70.7	71.3
	2015	685	71.1	10.8	71.1	5.0	10.9	1.9	0.3	67.8	74.5
Georgia	2011	646	27.2	27.0	27.2	15.9	22.4	6.4	1.1	29.8	24.3
	2015	569	31.6	20.8	31.6	18.1	24.5	2.9	2.1	29.5	33.8
Hong Kong SAR	2011	576	53.4	21.7	53.4	21.0	3.5	0.4	0.0	50.4	56.6
	2015	596	57.4	20.3	57.4	18.6	2.2	1.5	0.0	52.9	61.3
Hungary	2011	739	33.5	23.5	33.5	34.0	8.2	0.8	0.0	30.7	36.2
	2015	692	39.1	19.2	39.1	30.8	9.7	1.3	0.0	37.8	40.3
Iran, Islamic Rep. of	2011	856	59.9	8.8	59.9	23.8	5.9	1.2	0.4	59.7	60.1
	2015	879	53.6	11.1	53.6	20.1	8.5	4.8	1.9	53.7	53.6
Israel	2011	689	26.0	9.3	26.0	50.8	10.8	2.5	0.5	22.2	30.0
	2015	782	25.1	9.5	25.1	51.6	9.6	2.9	1.4	21.0	28.7
Italy	2011	560	81.1	9.0	81.1	5.1	3.7	1.0	0.2	82.8	79.4
	2015	640	84.5	7.9	84.5	4.1	1.9	1.1	0.5	86.4	82.7
Japan	2011	624	87.2	4.5	87.2	5.6	1.4	1.3	0.0	82.6	91.5
	2015	680	91.3	3.9	91.3	2.4	0.7	1.7	0.0	88.2	94.6
Jordan	2011	1093	30.9	7.1	30.9	47.7	13.3	0.8	0.2	40.9	21.1
	2015	1128	22.9	5.7	22.9	55.8	13.3	1.6	0.6	34.4	12.1
Kazakhstan	2011	629	53.7	11.7	53.7	4.8	25.6	4.0	0.2	55.9	51.7
	2015	705	57.4	11.0	57.4	7.7	22.4	0.6	0.8	56.5	58.2
Korea, Rep. of	2011	739	66.0	7.6	66.0	22.3	4.1	0.0	0.0	66.2	65.8
	2015	761	79.9	1.4	79.9	11.7	6.5	0.4	0.0	78.1	81.6
Lebanon	2011	559	24.9	14.1	24.9	27.3	22.8	10.9	0.0	26.0	23.6
	2015	529	23.7	10.3	23.7	37.3	14.8	12.4	1.5	23.7	23.7
Lithuania	2011	686	37.0	38.2	37.0	12.5	9.7	2.5	0.2	31.9	41.8
	2015	617	37.8	36.6	37.8	15.9	7.4	2.2	0.1	35.9	39.6

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S01_08 (S042249): Physics / Knowing Type: MC Key: B
Label: Example of a lever

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	68.6	7.8	68.6	13.5	8.4	0.7	1.0	72.6	64.5
	2015	1376	67.0	9.4	67.0	12.6	9.2	0.8	0.9	70.6	63.0
Morocco	2011	1170	9.0	5.6	9.0	63.5	14.3	5.1	2.6	10.0	8.1
	2015	1898	8.2	5.3	8.2	67.5	14.6	3.4	0.9	8.9	7.6
New Zealand	2011	751	69.4	8.5	69.4	8.3	11.1	2.2	0.4	66.1	72.5
	2015	1181	69.2	9.7	69.2	9.7	8.6	2.5	0.3	66.5	72.4
Oman	2011	1379	22.6	21.9	22.6	36.3	16.4	2.4	0.5	29.2	16.0
	2015	1287	28.7	19.0	28.7	36.9	12.6	1.8	1.0	36.0	21.8
Qatar	2011	634	25.7	14.2	25.7	40.9	16.3	3.0	0.0	26.5	24.9
	2015	760	33.9	8.5	33.9	39.8	14.5	2.1	1.2	37.2	30.3
Russian Federation	2011	703	85.6	1.9	85.6	1.3	9.7	1.5	0.1	82.8	88.1
	2015	683	81.9	2.4	81.9	2.8	10.8	1.7	0.4	78.5	85.4
Saudi Arabia	2011	688	17.3	9.3	17.3	59.9	12.7	0.8	0.0	20.0	14.7
	2015	543	21.0	17.7	21.0	44.6	14.8	1.4	0.5	23.4	18.4
Singapore	2011	840	88.0	2.6	88.0	5.4	3.5	0.4	0.1	86.0	89.8
	2015	879	60.7	9.0	60.7	18.9	9.9	1.3	0.2	57.4	63.8
Slovenia	2011	626	52.1	7.6	52.1	11.8	24.8	3.7	0.0	52.2	51.9
	2015	607	36.5	7.9	36.5	12.3	36.5	6.6	0.1	34.7	38.5
South Africa	2011	1701	24.5	20.3	24.5	30.0	20.6	3.6	1.0	26.9	22.2
	2015	1754	34.3	12.4	34.3	26.2	21.4	3.0	2.7	38.7	29.6
Sweden	2011	803	40.2	31.9	40.2	18.1	5.7	3.8	0.4	37.7	42.5
	2015	582	42.8	33.2	42.8	15.5	4.3	3.3	0.8	41.9	43.7
Thailand	2011	877	12.9	30.7	12.9	44.7	9.8	1.7	0.4	13.0	12.7
	2015	926	13.0	27.5	13.0	47.1	10.4	1.6	0.3	11.7	14.5
Turkey	2011	990	53.8	8.7	53.8	22.5	14.6	0.2	0.2	57.6	50.6
	2015	865	49.2	9.7	49.2	26.4	13.6	0.8	0.2	53.5	45.5
United Arab Emirates	2011	2012	30.3	10.6	30.3	41.5	15.1	1.9	0.5	31.5	29.2
	2015	2555	34.8	11.9	34.8	38.0	13.0	2.0	0.3	31.6	38.1
United States	2011	1499	65.3	8.9	65.3	14.1	9.4	2.1	0.2	61.0	70.3
	2015	1432	68.5	7.1	68.5	11.8	10.1	1.6	0.9	61.8	75.3

International Avg (n=33)	2011	28467	47.4	14.7	47.4	23.7	11.6	2.2	0.4	47.3	47.6
	2015	31138	48.1	13.8	48.1	23.5	11.6	2.3	0.7	47.8	48.5

Ontario, Canada	2011	671	72.8	7.7	72.8	10.5	7.1	0.8	1.1	68.5	77.0
	2015	649	76.9	4.8	76.9	8.4	7.3	1.5	1.2	76.0	77.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_08 (S042249): Physics / Knowing Type: MC Key: B
Label: Example of a lever

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	78.0	4.0	78.0	8.3	7.4	1.9	0.5	77.8	78.2
	2015	565	79.7	3.5	79.7	8.4	6.3	1.1	1.1	77.1	82.9
Norway (8)	2011	565	27.3	26.3	27.3	23.9	17.6	4.4	0.5	28.3	26.5
	2015	689	20.5	25.5	20.5	26.7	20.8	5.6	1.0	21.8	19.1
Abu Dhabi, UAE	2011	636	24.2	9.8	24.2	48.4	15.2	1.7	0.8	22.7	25.7
	2015	685	27.0	11.1	27.0	48.8	10.9	2.0	0.2	25.1	29.0
Dubai, UAE	2011	787	45.4	12.0	45.4	23.9	15.1	3.2	0.4	47.1	43.7
	2015	869	55.5	11.0	55.5	18.7	13.0	1.7	0.1	52.3	58.9
Florida, US	2011	241	61.7	13.3	61.7	11.0	11.9	2.2	0.0	54.6	68.3
	2015	288	61.3	12.6	61.3	12.9	10.9	1.6	0.8	62.2	60.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_09 (S042094): Physics / Applying Type: CR 1 Point
Label: Why plastic bottle cracked

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	49.3	0.6	2.2	41.9	5.9	0.0	49.3	50.1	48.5
	2015	1487	40.8	1.4	3.6	47.5	6.0	0.7	40.8	39.6	42.0
Bahrain	2011	658	20.2	3.5	3.8	53.5	18.3	0.7	20.2	20.8	19.6
	2015	701	29.1	5.3	4.6	50.8	10.0	0.3	29.1	30.9	27.3
Botswana	2011	768	15.7	1.0	0.9	75.1	5.5	1.9	15.7	14.5	17.0
	2015	843	25.5	0.6	1.4	63.9	5.9	2.8	25.5	24.7	26.3
Chile	2011	826	5.7	1.0	0.4	83.4	8.5	1.0	5.7	5.2	6.4
	2015	701	8.3	0.7	0.9	75.1	14.6	0.5	8.3	6.5	9.9
Chinese Taipei	2011	718	43.4	11.3	5.5	34.8	5.0	0.0	43.4	44.8	41.9
	2015	815	39.5	9.3	0.9	43.7	6.7	0.0	39.5	37.2	41.8
England	2011	541	53.9	0.8	4.0	38.4	2.5	0.5	53.9	55.6	52.3
	2015	685	49.4	2.9	2.3	38.2	7.0	0.3	49.4	52.5	46.3
Georgia	2011	646	23.2	1.9	5.0	51.5	16.7	1.7	23.2	22.9	23.4
	2015	569	21.7	0.0	4.3	52.7	19.2	2.1	21.7	17.7	25.7
Hong Kong SAR	2011	576	20.8	11.3	1.4	55.1	11.4	0.0	20.8	22.6	19.0
	2015	596	17.5	8.3	0.3	63.8	10.2	0.0	17.5	16.9	17.9
Hungary	2011	739	52.0	0.6	1.0	41.4	4.9	0.0	52.0	46.5	57.3
	2015	692	43.6	0.2	0.4	49.3	6.5	0.0	43.6	39.0	47.8
Iran, Islamic Rep. of	2011	855	26.5	5.1	5.9	51.2	10.9	0.3	26.5	25.6	27.3
	2015	879	27.2	0.8	0.8	54.2	14.2	2.9	27.2	28.9	25.7
Israel	2011	689	30.7	0.8	3.3	51.2	13.4	0.6	30.7	29.4	32.2
	2015	782	31.6	0.5	1.5	51.9	12.5	2.0	31.6	32.4	30.8
Italy	2011	560	37.2	0.2	1.0	52.6	8.9	0.2	37.2	38.4	36.0
	2015	640	38.3	0.1	0.6	49.4	11.0	0.6	38.3	37.4	39.1
Japan	2011	624	43.9	1.3	0.0	46.5	8.3	0.0	43.9	40.6	46.8
	2015	680	45.8	0.7	0.2	46.2	7.0	0.0	45.8	46.2	45.5
Jordan	2011	1093	25.0	2.0	2.2	61.4	9.2	0.2	25.0	27.5	22.5
	2015	1128	14.2	3.5	2.5	64.0	15.1	0.8	14.2	16.0	12.5
Kazakhstan	2011	629	35.1	2.8	4.3	39.2	18.3	0.4	35.1	35.5	34.7
	2015	705	55.1	0.9	0.9	31.8	10.5	0.8	55.1	53.0	57.1
Korea, Rep. of	2011	739	74.5	0.1	0.0	23.7	1.7	0.0	74.5	72.9	76.3
	2015	761	68.3	0.7	0.6	27.1	3.3	0.0	68.3	71.7	65.3
Lebanon	2011	566	14.7	2.1	1.5	50.8	30.6	0.2	14.7	14.6	14.9
	2015	545	10.5	1.2	1.0	54.2	31.2	2.0	10.5	9.7	11.5
Lithuania	2011	686	41.3	3.6	1.9	48.8	4.0	0.3	41.3	41.2	41.5
	2015	617	44.9	3.6	2.2	43.9	5.3	0.1	44.9	40.6	49.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_09 (S042094): Physics / Applying Type: CR 1 Point
Label: Why plastic bottle cracked

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	9.2	1.9	2.6	71.2	14.2	1.0	9.2	9.9	8.4
	2015	1376	6.0	2.3	3.2	76.1	11.2	1.2	6.0	6.3	5.7
Morocco	2011	1170	12.3	1.0	0.6	62.8	19.9	3.4	12.3	12.5	12.1
	2015	1898	21.8	0.1	0.2	56.6	20.0	1.2	21.8	21.7	21.8
New Zealand	2011	751	39.1	1.6	2.2	50.4	6.3	0.5	39.1	39.7	38.5
	2015	1181	35.7	1.0	3.1	52.5	7.0	0.7	35.7	33.9	37.8
Oman	2011	1379	15.6	0.6	1.2	63.6	18.1	0.9	15.6	20.5	10.6
	2015	1287	11.7	2.2	3.4	70.5	11.2	1.0	11.7	14.1	9.4
Qatar	2011	634	18.9	1.7	3.3	57.2	19.0	0.0	18.9	20.7	17.0
	2015	760	18.5	2.5	2.3	59.4	16.0	1.2	18.5	20.0	16.9
Russian Federation	2011	704	43.1	0.9	4.1	40.2	11.4	0.2	43.1	40.4	45.5
	2015	683	43.7	1.1	5.7	37.5	11.4	0.6	43.7	40.8	46.6
Saudi Arabia	2011	690	14.6	1.1	3.2	71.8	9.4	0.0	14.6	17.5	11.8
	2015	544	13.8	1.2	1.8	65.7	16.7	0.8	13.8	14.1	13.5
Singapore	2011	840	46.4	15.9	1.4	32.5	3.7	0.1	46.4	43.2	49.4
	2015	879	33.2	23.6	2.4	37.3	3.3	0.2	33.2	30.8	35.5
Slovenia	2011	626	47.9	0.4	0.5	47.6	3.7	0.0	47.9	44.6	50.8
	2015	607	43.5	3.2	0.1	48.7	4.4	0.1	43.5	38.2	49.1
South Africa	2011	1701	4.2	2.2	3.5	77.0	11.9	1.3	4.2	3.2	5.1
	2015	1754	9.9	0.9	1.3	76.5	8.3	3.0	9.9	10.5	9.2
Sweden	2011	803	46.5	0.9	2.1	41.6	8.0	0.9	46.5	48.2	45.0
	2015	582	49.4	2.0	1.5	38.0	8.2	1.0	49.4	50.0	48.9
Thailand	2011	877	14.2	0.3	0.4	66.4	18.2	0.4	14.2	13.6	14.9
	2015	926	11.8	0.3	0.9	68.1	18.3	0.6	11.8	13.5	9.9
Turkey	2011	990	18.6	0.7	0.8	69.7	10.0	0.2	18.6	19.1	18.1
	2015	865	20.3	2.0	0.7	66.5	10.1	0.4	20.3	21.2	19.5
United Arab Emirates	2011	2012	18.0	1.3	1.9	69.3	8.8	0.7	18.0	17.0	19.1
	2015	2555	21.4	1.5	2.4	62.7	11.5	0.4	21.4	21.1	21.7
United States	2011	1499	44.4	0.3	2.1	49.1	3.9	0.2	44.4	42.3	46.8
	2015	1432	41.7	1.3	2.7	50.1	3.0	1.2	41.7	39.3	44.0

International Avg (n=33)	2011	28476	30.5	2.4	2.3	53.7	10.6	0.5	30.5	30.3	30.6
	2015	31155	30.1	2.6	1.8	53.8	10.8	0.9	30.1	29.6	30.6

Ontario, Canada	2011	671	51.6	4.0	4.3	32.1	6.9	1.1	51.6	47.5	55.5
	2015	650	44.3	3.7	3.0	41.8	5.9	1.3	44.3	46.5	42.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_09 (S042094): Physics / Applying Type: CR 1 Point
Label: Why plastic bottle cracked

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	47.9	1.6	2.7	40.3	7.0	0.5	47.9	47.1	48.8
	2015	565	42.4	3.5	0.9	45.3	6.8	1.1	42.4	40.7	44.4
Norway (8)	2011	565	61.2	0.6	3.0	31.6	3.1	0.5	61.2	59.9	62.3
	2015	689	58.2	1.1	3.1	31.2	5.4	1.0	58.2	60.9	55.5
Abu Dhabi, UAE	2011	636	20.0	1.7	1.5	68.6	7.1	1.1	20.0	18.0	21.8
	2015	685	18.3	1.6	3.4	63.6	12.9	0.2	18.3	20.1	16.5
Dubai, UAE	2011	787	18.8	0.9	2.7	66.8	10.3	0.4	18.8	18.0	19.5
	2015	869	32.0	1.9	2.6	56.1	7.2	0.2	32.0	31.5	32.7
Florida, US	2011	241	51.3	0.6	3.1	41.9	3.1	0.0	51.3	48.2	54.1
	2015	288	36.9	0.6	1.8	51.5	7.9	1.3	36.9	35.3	38.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_10A (S042293A): Physics / Knowing Type: CR 1 Point
Label: Force causing the ball to fall

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	79.5	12.4	8.1	0.0	79.5	77.2	81.7
	2015	1487	72.5	16.5	10.3	0.7	72.5	70.1	75.0
Bahrain	2011	658	59.0	26.1	14.2	0.7	59.0	61.6	56.2
	2015	700	60.1	25.1	14.0	0.8	60.1	66.7	53.7
Botswana	2011	768	54.0	32.3	11.8	1.9	54.0	55.6	52.3
	2015	843	43.3	36.0	17.3	3.4	43.3	48.4	37.9
Chile	2011	826	49.3	25.2	24.4	1.1	49.3	43.7	56.7
	2015	701	47.9	17.5	34.1	0.5	47.9	38.6	56.6
Chinese Taipei	2011	718	80.1	13.5	6.3	0.0	80.1	80.3	80.0
	2015	815	79.9	12.7	7.3	0.0	79.9	76.8	83.0
England	2011	541	87.8	5.6	6.2	0.5	87.8	88.6	87.0
	2015	685	84.6	7.0	8.2	0.3	84.6	85.0	84.1
Georgia	2011	648	39.7	17.5	40.1	2.7	39.7	40.5	38.9
	2015	569	32.1	5.5	60.2	2.3	32.1	32.0	32.1
Hong Kong SAR	2011	576	82.9	10.0	7.1	0.0	82.9	81.9	83.9
	2015	596	79.2	9.3	11.5	0.0	79.2	78.5	79.7
Hungary	2011	739	66.7	15.9	17.4	0.0	66.7	62.7	70.5
	2015	692	64.2	13.4	22.3	0.0	64.2	61.7	66.5
Iran, Islamic Rep. of	2011	855	72.4	13.4	13.7	0.5	72.4	71.4	73.2
	2015	879	68.8	12.4	15.4	3.5	68.8	70.1	67.6
Israel	2011	689	72.6	14.0	12.6	0.9	72.6	70.4	75.0
	2015	782	71.3	14.1	12.4	2.2	71.3	72.5	70.3
Italy	2011	560	60.7	16.9	22.0	0.3	60.7	57.2	64.1
	2015	640	57.2	14.7	27.5	0.6	57.2	53.3	60.8
Japan	2011	624	82.1	13.1	4.7	0.0	82.1	76.7	87.1
	2015	680	78.6	14.7	6.6	0.1	78.6	75.1	82.4
Jordan	2011	1093	58.3	29.8	11.6	0.3	58.3	59.0	57.7
	2015	1128	51.5	34.2	13.5	0.8	51.5	53.2	49.9
Kazakhstan	2011	627	38.9	22.3	38.0	0.8	38.9	40.0	37.9
	2015	706	53.7	15.6	29.8	1.0	53.7	51.3	55.9
Korea, Rep. of	2011	739	87.3	10.6	2.1	0.0	87.3	85.4	89.3
	2015	761	72.4	23.1	4.5	0.0	72.4	73.0	71.8
Lebanon	2011	563	40.1	35.7	23.9	0.2	40.1	41.0	39.2
	2015	545	48.5	25.9	23.3	2.3	48.5	47.2	50.3
Lithuania	2011	686	65.1	21.8	12.7	0.5	65.1	61.1	68.9
	2015	617	61.6	23.4	14.9	0.1	61.6	62.4	60.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_10A (S042293A): Physics / Knowing Type: CR 1 Point
Label: Force causing the ball to fall

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	36.0	38.9	23.9	1.3	36.0	33.8	38.2
	2015	1376	57.4	27.5	13.6	1.5	57.4	58.8	55.8
Morocco	2011	1170	23.5	49.7	22.7	4.1	23.5	18.8	27.6
	2015	1898	35.1	35.9	27.5	1.4	35.1	27.3	42.5
New Zealand	2011	751	78.9	12.3	8.3	0.5	78.9	74.1	83.4
	2015	1181	70.5	17.3	11.6	0.7	70.5	68.5	72.9
Oman	2011	1379	53.0	29.4	16.4	1.2	53.0	61.9	44.0
	2015	1287	55.1	28.4	15.3	1.1	55.1	58.3	52.0
Qatar	2011	634	51.8	28.2	19.9	0.0	51.8	54.0	49.7
	2015	759	56.3	23.3	19.1	1.3	56.3	56.9	55.7
Russian Federation	2011	704	68.5	11.5	19.7	0.4	68.5	67.3	69.5
	2015	683	73.2	6.2	20.0	0.7	73.2	74.4	72.0
Saudi Arabia	2011	690	45.8	39.0	15.2	0.0	45.8	43.2	48.2
	2015	544	33.8	42.4	22.9	0.8	33.8	34.2	33.5
Singapore	2011	840	65.7	30.7	3.4	0.2	65.7	62.3	68.8
	2015	879	73.7	21.5	4.6	0.3	73.7	73.4	73.9
Slovenia	2011	626	66.8	24.3	8.8	0.2	66.8	63.9	69.4
	2015	607	72.7	21.5	5.6	0.1	72.7	68.6	77.2
South Africa	2011	1701	21.8	45.7	31.1	1.4	21.8	21.9	21.6
	2015	1754	31.2	39.4	26.2	3.2	31.2	27.7	34.8
Sweden	2011	802	62.4	20.4	15.9	1.2	62.4	60.2	64.5
	2015	582	71.5	13.1	13.9	1.4	71.5	69.2	73.8
Thailand	2011	877	40.0	22.0	37.4	0.6	40.0	40.7	39.3
	2015	926	32.1	20.4	46.7	0.7	32.1	34.9	29.1
Turkey	2011	989	56.8	18.8	24.2	0.2	56.8	61.9	52.4
	2015	865	52.8	27.3	19.3	0.6	52.8	54.4	51.4
United Arab Emirates	2011	2012	64.3	22.7	12.2	0.7	64.3	64.4	64.2
	2015	2555	61.8	20.9	16.8	0.5	61.8	64.9	58.6
United States	2011	1499	78.1	14.2	7.4	0.3	78.1	75.6	81.0
	2015	1432	76.8	20.6	1.5	1.2	76.8	75.9	77.6
International Avg (n=33)	2011	28471	60.3	22.5	16.5	0.7	60.3	59.3	61.3
	2015	31154	60.0	20.8	18.1	1.0	60.0	59.5	60.6
Ontario, Canada	2011	670	85.8	7.9	5.2	1.1	85.8	82.6	88.9
	2015	650	82.5	8.0	7.8	1.7	82.5	84.1	80.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_10A (S042293A): Physics / Knowing Type: CR 1 Point
Label: Force causing the ball to fall

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	74.9	16.5	8.1	0.5	74.9	71.7	78.4
	2015	565	71.9	16.8	9.9	1.4	71.9	66.5	78.4
Norway (8)	2011	565	64.0	22.1	13.4	0.5	64.0	61.1	66.3
	2015	689	67.0	13.7	18.2	1.1	67.0	64.6	69.4
Abu Dhabi, UAE	2011	636	63.4	23.5	12.0	1.1	63.4	63.0	63.8
	2015	685	54.0	25.1	20.6	0.3	54.0	60.0	47.7
Dubai, UAE	2011	787	67.0	20.4	12.1	0.4	67.0	69.0	65.2
	2015	869	75.3	14.4	10.0	0.3	75.3	76.0	74.6
Florida, US	2011	241	80.8	12.0	7.2	0.0	80.8	77.7	83.7
	2015	288	73.5	24.1	1.1	1.3	73.5	70.4	76.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_10B (S042293B): Physics / Reasoning Type: CR 1 Point
Label: Ball bouncing up again

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	11.3	79.8	8.2	0.5	0.3	11.3	9.8	12.7
	2015	1487	14.1	73.8	10.5	0.9	0.7	14.1	11.9	16.3
Bahrain	2011	658	6.8	45.9	42.6	4.0	0.7	6.8	7.5	6.1
	2015	700	10.9	45.9	40.3	2.1	0.9	10.9	9.4	12.3
Botswana	2011	768	6.7	35.4	53.1	2.1	2.7	6.7	7.7	5.7
	2015	843	3.8	37.9	52.1	2.4	3.8	3.8	2.5	5.1
Chile	2011	826	1.8	81.6	13.8	1.3	1.5	1.8	2.3	1.2
	2015	701	1.4	68.3	24.8	4.6	0.9	1.4	0.7	2.0
Chinese Taipei	2011	718	6.2	81.5	12.0	0.3	0.0	6.2	5.5	6.9
	2015	815	4.6	83.4	11.7	0.3	0.0	4.6	4.7	4.4
England	2011	541	13.2	72.3	13.6	0.0	0.9	13.2	11.1	15.1
	2015	685	15.2	69.9	13.6	1.0	0.3	15.2	14.0	16.4
Georgia	2011	648	3.6	33.3	53.0	7.3	2.8	3.6	4.9	2.3
	2015	569	9.7	41.1	41.3	5.6	2.4	9.7	11.7	7.7
Hong Kong SAR	2011	576	11.8	72.6	14.9	0.6	0.0	11.8	10.4	13.3
	2015	596	5.9	74.5	18.9	0.7	0.0	5.9	3.9	7.6
Hungary	2011	739	6.5	82.0	11.1	0.3	0.1	6.5	3.5	9.4
	2015	692	9.8	76.8	11.9	1.1	0.4	9.8	5.1	13.9
Iran, Islamic Rep. of	2011	854	28.0	45.3	24.1	1.8	0.7	28.0	32.9	23.8
	2015	879	11.5	66.8	16.4	1.7	3.8	11.5	13.2	9.9
Israel	2011	689	20.1	54.6	22.3	1.7	1.3	20.1	18.5	21.8
	2015	782	17.4	58.1	20.7	1.5	2.4	17.4	13.1	21.2
Italy	2011	560	7.2	74.1	16.1	1.9	0.6	7.2	5.5	8.8
	2015	640	9.0	78.2	11.2	1.0	0.6	9.0	8.4	9.5
Japan	2011	624	4.9	71.4	22.6	1.1	0.0	4.9	3.2	6.4
	2015	680	2.8	83.7	12.6	0.6	0.3	2.8	2.6	3.0
Jordan	2011	1093	4.4	35.7	56.4	3.2	0.3	4.4	5.4	3.3
	2015	1128	3.9	26.3	66.8	2.0	1.0	3.9	3.1	4.7
Kazakhstan	2011	629	20.7	23.9	44.5	10.1	0.8	20.7	20.0	21.4
	2015	706	51.3	12.3	31.2	4.0	1.2	51.3	53.3	49.5
Korea, Rep. of	2011	739	1.6	88.0	9.9	0.4	0.1	1.6	1.5	1.7
	2015	761	21.3	69.7	8.0	1.0	0.0	21.3	20.7	21.8
Lebanon	2011	566	11.7	35.3	48.9	3.8	0.2	11.7	9.7	14.2
	2015	545	4.0	31.6	55.6	5.9	2.8	4.0	4.7	3.1
Lithuania	2011	686	11.5	77.0	10.4	0.3	0.7	11.5	12.9	10.3
	2015	617	10.0	79.4	10.3	0.2	0.1	10.0	9.7	10.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_10B (S042293B): Physics / Reasoning Type: CR 1 Point
Label: Ball bouncing up again

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	9.8	42.0	44.0	2.3	1.9	9.8	11.0	8.6
	2015	1376	5.1	43.1	47.6	2.1	2.1	5.1	4.1	6.2
Morocco	2011	1170	3.0	24.0	59.8	9.0	4.4	3.0	2.0	3.8
	2015	1898	3.0	34.9	55.1	5.4	1.6	3.0	2.8	3.2
New Zealand	2011	751	11.8	77.4	8.5	1.8	0.5	11.8	9.6	13.8
	2015	1181	12.6	73.7	11.7	1.2	0.7	12.6	13.6	11.5
Oman	2011	1379	9.8	45.3	40.8	2.8	1.2	9.8	11.9	7.8
	2015	1288	13.5	47.6	35.2	2.5	1.2	13.5	16.4	10.7
Qatar	2011	634	7.0	45.2	46.1	1.8	0.0	7.0	5.9	8.1
	2015	759	8.5	40.9	45.9	3.2	1.5	8.5	6.8	10.2
Russian Federation	2011	704	12.2	75.4	10.3	1.5	0.6	12.2	10.5	13.6
	2015	683	12.9	67.5	16.6	2.1	0.9	12.9	8.7	17.1
Saudi Arabia	2011	690	4.4	39.0	55.9	0.7	0.0	4.4	3.5	5.2
	2015	544	5.4	29.1	62.5	2.1	0.8	5.4	5.0	5.8
Singapore	2011	840	55.8	35.2	8.4	0.4	0.3	55.8	54.9	56.6
	2015	879	53.4	35.7	10.5	0.2	0.3	53.4	52.2	54.5
Slovenia	2011	626	20.2	69.4	9.5	0.7	0.2	20.2	16.1	24.0
	2015	607	3.4	25.0	71.0	0.5	0.1	3.4	0.7	6.2
South Africa	2011	1701	7.1	17.8	72.3	1.4	1.5	7.1	6.4	7.8
	2015	1754	10.8	24.2	59.4	2.0	3.6	10.8	10.9	10.6
Sweden	2011	803	3.0	85.0	9.9	0.8	1.2	3.0	2.3	3.6
	2015	582	4.5	77.2	15.4	0.9	2.1	4.5	5.1	3.8
Thailand	2011	877	0.5	66.1	25.3	7.1	1.0	0.5	0.8	0.2
	2015	926	1.0	61.3	31.6	5.2	0.9	1.0	0.5	1.5
Turkey	2011	989	13.6	52.5	30.0	3.6	0.3	13.6	14.8	12.6
	2015	865	18.7	45.5	32.5	2.4	0.9	18.7	18.2	19.1
United Arab Emirates	2011	2012	6.1	53.7	37.8	1.5	0.9	6.1	5.6	6.6
	2015	2555	9.4	55.2	33.3	1.6	0.5	9.4	9.3	9.5
United States	2011	1499	14.0	71.6	12.4	1.6	0.4	14.0	13.8	14.2
	2015	1432	14.1	70.7	12.5	1.1	1.6	14.1	12.7	15.5

International Avg (n=33)	2011	28476	10.8	57.3	28.7	2.4	0.9	10.8	10.3	11.2
	2015	31155	11.6	54.8	30.3	2.1	1.2	11.6	10.9	12.3

Ontario, Canada	2011	671	18.3	66.9	11.9	1.8	1.2	18.3	16.6	19.8
	2015	650	16.7	60.4	19.5	1.5	1.9	16.7	12.9	20.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_10B (S042293B): Physics / Reasoning Type: CR 1 Point
Label: Ball bouncing up again

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	16.1	70.8	12.1	0.5	0.6	16.1	18.1	13.9
	2015	565	33.7	50.3	13.6	0.5	1.9	33.7	33.0	34.5
Norway (8)	2011	565	3.6	88.7	6.3	0.7	0.7	3.6	3.3	3.9
	2015	689	4.1	84.8	8.2	1.7	1.1	4.1	6.4	1.8
Abu Dhabi, UAE	2011	636	6.2	51.3	39.8	1.5	1.2	6.2	5.7	6.6
	2015	685	10.7	47.6	38.9	2.4	0.4	10.7	12.7	8.6
Dubai, UAE	2011	787	8.8	64.5	24.7	1.4	0.5	8.8	8.0	9.5
	2015	869	9.8	66.5	21.9	1.5	0.3	9.8	8.0	11.7
Florida, US	2011	241	22.3	57.3	19.0	1.4	0.0	22.3	24.8	19.9
	2015	288	15.7	62.5	19.4	1.1	1.3	15.7	14.3	16.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_11 (S042195): Physics / Applying Type: CR 1 Point
Label: What is resistance in a circuit

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	4.6	3.5	68.1	23.5	0.3	4.6	2.8	6.4
	2015	1487	3.0	3.6	69.1	23.5	0.7	3.0	2.7	3.4
Bahrain	2011	658	7.2	4.9	63.7	23.0	1.2	7.2	7.6	6.8
	2015	700	8.6	8.9	68.3	13.4	0.9	8.6	9.4	7.8
Botswana	2011	768	3.9	2.7	82.8	7.7	2.8	3.9	3.2	4.7
	2015	847	6.8	9.9	72.3	6.5	4.4	6.8	7.4	6.2
Chile	2011	826	1.2	1.1	49.1	46.9	1.7	1.2	1.1	1.4
	2015	701	2.0	0.8	49.2	47.1	0.9	2.0	2.4	1.6
Chinese Taipei	2011	718	11.3	4.7	70.5	13.5	0.0	11.3	9.6	12.9
	2015	815	11.9	3.6	65.9	18.7	0.0	11.9	11.7	12.0
England	2011	541	7.0	5.7	63.3	23.2	0.9	7.0	6.1	7.7
	2015	685	9.0	6.0	60.2	24.5	0.3	9.0	12.2	5.8
Georgia	2011	643	3.8	2.1	23.9	67.5	2.8	3.8	2.6	5.0
	2015	569	14.6	8.1	32.2	42.6	2.4	14.6	13.6	15.7
Hong Kong SAR	2011	576	9.8	4.1	74.6	11.6	0.0	9.8	9.9	9.6
	2015	596	7.9	3.0	80.3	8.8	0.0	7.9	6.8	9.0
Hungary	2011	739	33.1	15.8	30.3	20.7	0.1	33.1	35.4	30.8
	2015	692	33.7	11.7	31.8	22.3	0.5	33.7	31.9	35.3
Iran, Islamic Rep. of	2011	853	13.3	3.1	57.9	24.9	0.7	13.3	17.4	9.9
	2015	879	25.9	8.6	39.5	22.2	3.8	25.9	30.3	22.0
Israel	2011	689	5.2	2.6	57.5	33.2	1.5	5.2	3.6	6.9
	2015	782	4.4	2.6	61.7	28.9	2.4	4.4	5.3	3.7
Italy	2011	560	20.0	8.3	34.0	37.1	0.6	20.0	16.2	23.5
	2015	639	20.3	8.7	34.9	35.5	0.6	20.3	20.8	19.8
Japan	2011	624	63.6	2.9	29.4	4.1	0.0	63.6	62.7	64.4
	2015	680	66.7	2.9	24.1	5.9	0.3	66.7	68.4	65.0
Jordan	2011	1093	12.2	4.0	69.7	13.8	0.3	12.2	14.4	10.2
	2015	1128	4.2	1.9	70.4	22.4	1.1	4.2	5.8	2.8
Kazakhstan	2011	627	42.5	12.0	32.1	12.6	0.8	42.5	46.3	39.0
	2015	706	72.0	3.5	17.6	5.8	1.2	72.0	72.6	71.3
Korea, Rep. of	2011	739	63.4	1.0	30.5	4.9	0.1	63.4	67.0	59.6
	2015	761	12.8	2.4	70.9	13.7	0.3	12.8	11.2	14.1
Lebanon	2011	566	13.0	3.8	43.3	39.6	0.2	13.0	11.9	14.2
	2015	545	11.0	4.7	41.0	40.4	3.0	11.0	10.9	11.0
Lithuania	2011	686	13.4	7.5	42.5	36.0	0.7	13.4	13.5	13.2
	2015	617	11.6	5.0	48.2	35.1	0.1	11.6	10.5	12.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_11 (S042195): Physics / Applying Type: CR 1 Point
Label: What is resistance in a circuit

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	7.8	3.0	71.4	15.7	2.0	7.8	9.0	6.6
	2015	1376	12.6	6.0	64.5	14.6	2.2	12.6	13.1	12.1
Morocco	2011	1170	5.9	5.4	42.5	41.5	4.7	5.9	5.9	6.0
	2015	1898	5.1	9.8	53.3	30.2	1.6	5.1	6.8	3.5
New Zealand	2011	751	3.6	1.6	71.7	22.6	0.5	3.6	2.5	4.7
	2015	1181	3.2	1.5	67.4	27.2	0.7	3.2	1.9	4.8
Oman	2011	1379	9.4	4.2	64.1	20.9	1.3	9.4	13.2	5.6
	2015	1285	14.9	12.0	57.3	14.6	1.2	14.9	18.5	11.4
Qatar	2011	634	5.0	5.6	70.1	19.1	0.2	5.0	4.3	5.7
	2015	759	8.0	5.3	62.3	22.8	1.5	8.0	7.9	8.1
Russian Federation	2011	704	52.0	10.9	21.6	14.7	0.8	52.0	51.8	52.1
	2015	683	51.1	10.7	20.4	16.9	0.9	51.1	54.1	48.1
Saudi Arabia	2011	690	11.8	20.7	55.2	12.3	0.0	11.8	8.9	14.5
	2015	543	5.7	5.3	67.6	20.5	0.8	5.7	6.8	4.5
Singapore	2011	840	59.8	5.9	30.7	3.2	0.3	59.8	63.1	56.8
	2015	879	55.8	5.2	35.6	3.0	0.3	55.8	59.9	52.0
Slovenia	2011	626	2.7	3.2	66.0	27.9	0.2	2.7	3.4	2.0
	2015	607	4.0	0.6	66.5	28.6	0.2	4.0	4.3	3.6
South Africa	2011	1701	13.6	4.5	69.3	11.0	1.6	13.6	17.0	10.1
	2015	1754	12.7	3.3	71.3	9.0	3.8	12.7	15.6	9.7
Sweden	2011	0	.	.	.	.	.	.	.	.
	2015	582	8.7	6.4	58.0	24.6	2.3	8.7	8.0	9.5
Thailand	2011	877	4.2	3.5	61.8	29.6	1.0	4.2	4.4	4.0
	2015	926	6.4	2.9	69.4	20.4	0.9	6.4	7.2	5.5
Turkey	2011	984	14.4	2.8	61.6	20.8	0.3	14.4	15.8	13.3
	2015	865	13.8	1.8	68.1	15.3	0.9	13.8	14.6	13.2
United Arab Emirates	2011	2012	12.2	12.1	58.1	16.6	0.9	12.2	13.0	11.4
	2015	2555	15.9	9.9	59.0	14.5	0.5	15.9	15.9	16.0
United States	2011	1499	7.7	9.4	71.6	10.9	0.4	7.7	8.0	7.3
	2015	1432	8.0	9.9	72.1	8.3	1.6	8.0	8.2	7.9

International Avg (n=33)	2011	27660	16.8	5.7	54.3	22.2	0.9	16.8	17.2	16.4
	2015	31154	16.7	5.7	55.5	20.8	1.3	16.7	17.5	16.0

Ontario, Canada	2011	671	8.5	8.9	54.9	26.3	1.3	8.5	8.5	8.6
	2015	650	10.7	7.8	55.8	23.7	2.0	10.7	13.3	8.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_11 (S042195): Physics / Applying Type: CR 1 Point
Label: What is resistance in a circuit

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	5.6	6.2	58.4	29.3	0.6	5.6	4.4	6.9
	2015	565	7.8	7.5	59.2	23.5	2.0	7.8	7.3	8.5
Norway (8)	2011	565	2.3	3.6	63.2	30.2	0.7	2.3	1.9	2.6
	2015	689	2.4	2.0	63.5	31.0	1.1	2.4	0.2	4.6
Abu Dhabi, UAE	2011	636	16.0	14.2	54.4	14.1	1.3	16.0	16.9	15.2
	2015	685	16.1	11.0	59.6	12.9	0.4	16.1	18.1	14.1
Dubai, UAE	2011	787	9.0	8.8	59.6	21.9	0.7	9.0	8.0	9.9
	2015	869	21.2	8.4	56.1	14.0	0.3	21.2	18.7	23.9
Florida, US	2011	241	10.5	14.5	63.9	11.0	0.0	10.5	14.8	6.6
	2015	288	8.2	7.5	69.0	13.9	1.3	8.2	8.5	8.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_12 (S042400): Physics / Applying Type: CR 1 Point
Label: Wood/metal container to keep ice

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	14.7	2.6	2.1	29.6	41.9	8.3	0.7	17.4	13.9	20.7
	2015	1487	10.7	4.5	10.9	36.7	26.9	9.1	1.1	15.2	15.1	15.2
Bahrain	2011	658	8.2	7.0	11.6	6.0	45.9	19.5	1.7	15.2	17.2	13.1
	2015	700	9.5	10.7	10.9	5.1	49.0	13.9	1.1	20.1	25.6	14.7
Botswana	2011	768	20.8	4.5	2.1	2.7	59.3	6.8	3.9	25.3	25.5	25.1
	2015	847	11.1	4.8	1.8	2.1	66.1	8.3	5.8	15.9	17.8	13.9
Chile	2011	826	2.6	4.9	3.5	20.5	52.7	13.4	2.4	7.5	5.8	9.7
	2015	701	3.2	3.2	2.4	12.1	51.7	25.8	1.6	6.4	4.7	7.9
Chinese Taipei	2011	718	42.2	2.5	0.9	22.1	25.8	6.4	0.1	44.6	45.6	43.7
	2015	815	43.1	2.0	0.8	22.5	24.2	7.3	0.1	45.1	42.0	48.2
England	2011	541	23.3	15.1	2.6	9.1	41.0	7.7	1.3	38.4	36.1	40.5
	2015	685	15.4	20.2	5.3	12.0	34.4	12.2	0.5	35.6	37.4	33.9
Georgia	2011	643	3.9	1.7	7.1	4.6	43.6	36.0	3.1	5.6	6.0	5.3
	2015	569	16.0	4.6	4.1	5.3	39.3	27.2	3.6	20.6	20.3	20.8
Hong Kong SAR	2011	576	20.0	5.6	5.4	9.1	44.2	15.6	0.0	25.7	25.8	25.5
	2015	596	21.6	5.1	5.0	14.1	40.8	13.5	0.0	26.7	25.7	27.5
Hungary	2011	739	21.3	6.0	4.0	19.5	33.6	15.6	0.1	27.3	24.6	29.8
	2015	692	20.4	3.7	3.1	19.6	38.0	14.2	0.9	24.2	25.5	23.0
Iran, Islamic Rep. of	2011	856	11.3	4.7	5.7	13.0	47.0	16.6	1.6	16.0	18.1	14.3
	2015	879	8.0	6.3	3.1	12.5	44.4	21.0	4.7	14.3	13.4	15.2
Israel	2011	689	13.0	12.0	6.3	12.6	34.2	19.9	2.0	24.9	22.1	28.0
	2015	782	13.8	26.5	5.1	8.1	27.4	15.9	3.2	40.3	39.7	40.8
Italy	2011	560	24.0	2.7	2.9	7.3	41.5	20.5	1.1	26.7	24.5	28.8
	2015	640	17.0	7.6	4.5	10.9	39.0	19.9	1.0	24.7	23.8	25.5
Japan	2011	624	35.9	3.6	3.5	12.0	34.4	10.3	0.3	39.5	38.6	40.2
	2015	680	4.0	36.7	2.8	12.8	32.5	11.1	0.3	40.6	40.3	41.0
Jordan	2011	1093	10.4	18.4	4.8	4.9	47.6	13.1	0.8	28.7	32.1	25.5
	2015	1128	13.3	5.4	12.7	2.6	45.7	18.8	1.5	18.7	19.9	17.5
Kazakhstan	2011	627	29.2	4.6	3.3	2.9	35.5	23.8	0.8	33.7	33.7	33.8
	2015	706	49.1	2.4	2.2	1.1	28.9	14.5	1.9	51.5	51.9	51.2
Korea, Rep. of	2011	739	21.7	0.8	1.0	10.7	55.3	10.3	0.1	22.5	21.3	23.8
	2015	761	31.1	2.7	1.2	4.5	50.7	9.6	0.3	33.8	31.4	35.9
Lebanon	2011	566	5.6	5.1	4.1	1.8	43.2	37.7	2.4	10.8	12.7	8.5
	2015	545	5.3	2.9	1.2	1.0	43.4	41.1	5.1	8.2	9.4	6.6
Lithuania	2011	686	11.2	5.4	6.4	13.8	46.5	15.7	0.9	16.6	16.0	17.3
	2015	617	10.3	9.5	10.4	14.1	40.3	15.2	0.1	19.8	15.2	24.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_12 (S042400): Physics / Applying Type: CR 1 Point
Label: Wood/metal container to keep ice

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	13.7	4.1	2.0	2.7	59.2	15.0	3.3	17.7	19.4	16.1
	2015	1376	16.3	3.8	4.5	5.1	52.6	14.9	2.9	20.0	21.4	18.5
Morocco	2011	1170	3.8	1.4	9.0	1.5	43.6	34.1	6.6	5.2	6.7	3.9
	2015	1898	13.3	0.0	7.5	0.5	42.7	33.6	2.4	13.3	12.8	13.8
New Zealand	2011	751	12.2	6.5	4.0	30.0	37.5	8.9	0.9	18.7	14.9	22.2
	2015	1181	8.1	4.5	2.3	27.4	43.6	11.5	2.6	12.6	11.8	13.6
Oman	2011	1379	10.3	9.3	6.2	5.3	43.4	23.4	2.2	19.5	27.0	11.9
	2015	1286	13.3	9.4	7.3	9.0	46.5	12.6	1.8	22.7	28.3	17.3
Qatar	2011	634	19.8	7.2	4.0	1.7	45.4	21.4	0.4	27.0	30.7	23.2
	2015	759	25.8	6.7	3.9	5.2	36.7	20.2	1.5	32.5	36.1	28.7
Russian Federation	2011	704	32.1	3.9	8.4	12.5	22.6	18.6	1.7	36.1	32.8	39.0
	2015	683	32.8	3.9	7.4	10.4	24.2	19.2	2.2	36.7	34.7	38.6
Saudi Arabia	2011	690	12.2	4.5	13.8	7.0	48.8	13.6	0.0	16.8	18.3	15.3
	2015	544	12.6	1.6	7.2	2.3	51.3	23.3	1.7	14.1	18.7	9.4
Singapore	2011	840	61.0	7.9	1.5	5.5	19.5	4.2	0.3	69.0	69.2	68.8
	2015	879	69.3	4.6	1.6	4.0	16.6	3.3	0.4	73.9	81.3	66.9
Slovenia	2011	626	21.0	6.6	3.2	18.6	41.6	8.9	0.2	27.6	25.3	29.6
	2015	607	30.6	8.6	4.1	10.2	37.5	8.5	0.6	39.2	39.4	38.9
South Africa	2011	1701	4.4	1.0	3.1	3.1	68.7	17.5	2.2	5.4	5.0	5.8
	2015	1754	5.7	2.3	3.2	4.1	68.6	10.6	5.6	8.0	8.1	7.9
Sweden	2011	803	12.7	1.7	6.1	14.6	46.8	16.5	1.7	14.4	14.7	14.0
	2015	582	19.3	4.5	5.8	12.6	36.2	18.8	2.8	23.8	22.5	25.0
Thailand	2011	877	4.8	3.4	12.9	5.3	45.1	26.5	2.0	8.3	8.5	8.0
	2015	926	4.1	4.0	9.3	5.1	51.0	25.1	1.4	8.1	7.4	8.9
Turkey	2011	989	15.6	10.3	2.7	6.5	47.4	17.1	0.4	26.0	25.0	26.8
	2015	865	13.8	9.2	4.2	9.8	45.7	16.0	1.3	23.0	24.1	21.9
United Arab Emirates	2011	2012	16.6	6.0	7.0	6.0	50.8	12.4	1.2	22.6	22.6	22.7
	2015	2554	12.5	10.5	4.0	6.0	49.8	15.9	1.2	23.0	25.2	20.6
United States	2011	1499	10.6	5.9	4.8	24.3	48.9	4.7	0.8	16.5	15.4	17.8
	2015	1432	16.2	6.1	6.9	18.8	45.5	4.6	2.0	22.2	19.6	24.9

International Avg (n=33)	2011	28471	17.3	5.7	5.0	10.5	43.7	16.4	1.4	22.9	22.9	23.0
	2015	31156	18.1	7.2	5.0	9.9	41.6	16.3	1.9	25.3	25.8	24.8

Ontario, Canada	2011	671	12.4	5.8	7.0	20.5	38.5	12.8	3.0	18.2	16.8	19.6
	2015	650	12.1	4.8	4.5	19.2	46.5	9.3	3.7	16.9	15.3	18.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_12 (S042400): Physics / Applying Type: CR 1 Point
Label: Wood/metal container to keep ice

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	12.7	3.3	11.0	16.4	43.5	12.2	0.9	16.0	13.0	19.3
	2015	565	8.2	5.8	6.0	14.7	47.5	13.8	4.1	14.0	11.0	17.6
Norway (8)	2011	565	3.2	2.6	8.1	18.7	46.6	20.1	0.7	5.8	5.5	6.0
	2015	689	2.2	1.5	6.7	17.1	50.8	19.4	2.2	3.8	1.7	5.9
Abu Dhabi, UAE	2011	636	15.5	6.2	8.7	5.6	51.5	11.0	1.4	21.8	18.9	24.5
	2015	685	7.9	10.6	4.3	6.5	53.5	15.6	1.6	18.5	22.0	14.8
Dubai, UAE	2011	787	22.9	4.9	3.7	6.8	46.0	14.6	1.0	27.8	27.3	28.3
	2015	869	21.9	14.5	3.0	7.1	42.9	9.9	0.6	36.5	36.7	36.2
Florida, US	2011	241	14.3	8.3	6.4	21.4	42.7	6.3	0.5	22.6	20.5	24.6
	2015	288	15.5	5.3	8.0	13.2	46.5	8.2	3.4	20.8	17.3	23.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S01_14 (S042164): Earth Science / Knowing Type: MC Key: B
Label: Result gravitational pull of moon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1076	55.5	3.1	55.5	11.1	27.5	1.1	1.6	48.0	62.9
	2015	1487	63.2	4.0	63.2	10.8	19.4	1.2	1.4	59.8	66.6
Bahrain	2011	658	39.5	4.5	39.5	19.6	32.6	1.9	1.9	41.1	37.9
	2015	700	51.8	5.5	51.8	14.9	26.1	0.4	1.3	49.2	54.4
Botswana	2011	0	.	.	.	.	.	.	.	.	.
	2015	848	6.6	19.6	6.6	21.7	42.1	1.6	8.4	5.3	8.1
Chile	2011	826	44.7	1.7	44.7	19.2	30.0	1.4	2.9	35.8	56.5
	2015	701	46.2	4.0	46.2	21.0	25.8	1.2	1.7	34.6	57.1
Chinese Taipei	2011	718	52.8	3.7	52.8	18.9	24.3	0.2	0.1	45.4	60.1
	2015	815	50.7	2.8	50.7	17.1	28.9	0.1	0.3	38.2	62.9
England	2011	541	45.4	4.1	45.4	14.6	33.5	1.2	1.3	35.5	54.4
	2015	685	49.8	6.0	49.8	14.0	28.0	1.5	0.7	46.3	53.3
Georgia	2011	650	27.2	13.2	27.2	39.2	15.4	1.8	3.2	26.5	27.9
	2015	569	31.0	5.9	31.0	39.3	16.3	1.8	5.7	27.4	34.5
Hong Kong SAR	2011	576	46.9	6.4	46.9	29.6	16.6	0.4	0.2	38.9	55.4
	2015	596	54.0	3.0	54.0	24.3	18.2	0.4	0.1	43.4	63.2
Hungary	2011	739	32.5	4.4	32.5	28.2	33.6	1.0	0.3	24.6	40.0
	2015	692	36.4	5.7	36.4	16.0	38.8	1.3	1.8	29.1	42.9
Iran, Islamic Rep. of	2011	856	58.5	5.8	58.5	17.7	14.9	1.2	1.9	57.0	59.8
	2015	879	37.0	6.6	37.0	27.6	22.5	1.2	5.0	31.8	41.7
Israel	2011	689	33.4	5.0	33.4	20.5	37.6	1.4	2.2	26.7	40.5
	2015	782	42.2	7.1	42.2	15.4	30.4	1.1	3.7	35.7	48.1
Italy	2011	560	54.0	3.6	54.0	15.8	24.9	0.5	1.1	52.3	55.6
	2015	640	53.7	3.9	53.7	11.2	29.2	0.7	1.3	54.5	53.0
Japan	2011	624	35.7	3.4	35.7	32.0	27.7	0.8	0.5	30.5	40.5
	2015	680	34.6	2.6	34.6	27.7	34.3	0.5	0.3	29.5	39.9
Jordan	2011	1093	39.1	5.6	39.1	24.7	28.8	0.9	0.9	41.5	36.8
	2015	1128	34.3	7.2	34.3	24.3	32.0	0.5	1.7	32.7	35.9
Kazakhstan	2011	629	32.1	11.3	32.1	17.2	36.6	1.7	1.1	26.7	37.1
	2015	705	49.2	6.1	49.2	12.4	28.9	1.3	2.2	43.1	54.9
Korea, Rep. of	2011	739	55.4	1.6	55.4	33.6	9.1	0.1	0.1	46.4	64.9
	2015	761	45.5	0.9	45.5	38.9	14.3	0.0	0.4	37.0	53.1
Lebanon	2011	560	14.0	16.2	14.0	18.5	41.9	5.4	4.1	11.0	17.4
	2015	536	13.1	18.0	13.1	19.6	37.4	5.6	6.3	11.4	15.5
Lithuania	2011	686	63.7	5.9	63.7	13.1	12.9	3.5	1.0	61.6	65.7
	2015	617	58.9	4.3	58.9	17.5	17.6	1.5	0.2	58.0	59.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S01_14 (S042164): Earth Science / Knowing Type: MC Key: B
Label: Result gravitational pull of moon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	19.3	10.1	19.3	24.5	41.6	1.0	3.5	13.8	24.8
	2015	1376	33.1	8.4	33.1	21.9	31.9	0.6	4.1	31.3	35.1
Morocco	2011	1170	14.2	8.0	14.2	36.1	31.7	1.8	8.1	12.9	15.4
	2015	1896	33.1	5.6	33.1	29.5	26.6	2.4	2.9	31.6	34.5
New Zealand	2011	751	68.0	2.5	68.0	9.2	18.2	1.0	1.0	60.6	74.9
	2015	1181	67.9	3.1	67.9	8.9	15.3	1.7	3.1	68.2	67.6
Oman	2011	1379	45.8	8.2	45.8	18.3	24.2	0.8	2.7	55.5	35.9
	2015	1288	50.0	6.1	50.0	17.4	23.1	1.3	2.2	55.0	45.2
Qatar	2011	634	37.9	10.5	37.9	20.5	29.7	1.0	0.4	40.6	35.1
	2015	759	52.0	6.2	52.0	12.7	26.5	1.1	1.6	53.8	50.1
Russian Federation	2011	704	65.3	4.1	65.3	18.5	8.7	1.5	1.9	60.8	69.4
	2015	683	69.8	2.6	69.8	15.6	8.2	1.1	2.7	64.6	74.9
Saudi Arabia	2011	690	36.4	6.8	36.4	19.6	36.9	0.3	0.0	36.1	36.7
	2015	543	43.9	6.3	43.9	14.5	32.2	1.3	1.7	45.4	42.4
Singapore	2011	840	52.0	2.7	52.0	17.8	27.2	0.1	0.3	46.9	56.7
	2015	878	51.4	3.4	51.4	13.6	30.7	0.3	0.6	47.4	55.1
Slovenia	2011	626	62.3	2.1	62.3	6.2	27.4	1.5	0.5	58.4	65.8
	2015	607	58.4	1.2	58.4	8.7	30.3	0.7	0.7	53.5	63.7
South Africa	2011	1701	12.3	25.7	12.3	19.2	38.1	1.1	3.5	10.8	13.8
	2015	1751	16.0	20.3	16.0	13.8	42.3	1.2	6.4	14.4	17.7
Sweden	2011	803	50.1	5.6	50.1	23.1	17.0	2.1	2.1	45.2	54.6
	2015	582	54.7	1.9	54.7	17.4	19.5	2.4	4.0	52.2	57.2
Thailand	2011	877	51.6	4.5	51.6	20.7	20.2	0.8	2.2	51.7	51.5
	2015	926	47.7	5.3	47.7	27.6	17.1	0.8	1.5	44.5	51.1
Turkey	2011	989	36.6	4.8	36.6	31.8	25.8	0.7	0.4	38.3	35.1
	2015	865	38.1	5.0	38.1	27.6	27.4	0.5	1.5	36.0	39.9
United Arab Emirates	2011	2012	47.3	6.2	47.3	15.5	29.1	0.4	1.4	45.4	49.4
	2015	2555	44.2	7.5	44.2	14.0	31.4	1.4	1.6	42.4	46.0
United States	2011	1499	63.0	4.1	63.0	8.8	22.0	0.9	1.2	58.0	68.7
	2015	1432	68.9	4.0	68.9	6.7	17.3	0.7	2.4	66.0	71.8

International Avg (n=33)	2011	27706	43.5	6.4	43.5	20.7	26.4	1.2	1.7	40.1	46.9
	2015	31143	45.1	6.1	45.1	18.9	26.4	1.2	2.4	41.6	48.4

Ontario, Canada	2011	671	44.0	6.0	44.0	17.7	28.1	0.4	3.8	40.6	47.2
	2015	650	44.1	5.2	44.1	14.1	31.1	0.7	4.9	40.1	48.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S01_14 (S042164): Earth Science / Knowing Type: MC Key: B
Label: Result gravitational pull of moon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	861	50.2	1.6	50.2	14.2	31.3	1.6	1.1	47.1	53.6
	2015	562	46.4	0.4	46.4	12.8	34.4	1.4	4.6	37.6	57.1
Norway (8)	2011	565	54.3	2.4	54.3	11.2	29.6	1.3	1.2	51.8	56.3
	2015	689	54.7	3.1	54.7	8.3	28.6	2.9	2.4	51.7	57.8
Abu Dhabi, UAE	2011	636	49.6	4.8	49.6	16.5	27.3	0.3	1.5	46.9	52.1
	2015	685	40.6	8.2	40.6	16.4	31.6	1.4	1.8	40.6	40.6
Dubai, UAE	2011	787	46.6	8.3	46.6	14.8	28.5	0.6	1.2	43.8	49.1
	2015	869	52.9	7.2	52.9	11.3	26.2	1.2	1.2	47.4	59.0
Florida, US	2011	241	70.7	1.2	70.7	4.5	21.3	1.2	1.0	64.3	76.7
	2015	288	69.0	3.2	69.0	5.8	17.8	0.7	3.6	65.2	72.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_01 (S052261): Biology / Knowing Type: MC Key: B
Label: Why people shiver when cold

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	52.9	18.8	52.9	19.3	8.4	0.4	0.1	50.2	55.4
	2015	1468	57.2	18.8	57.2	17.5	4.9	1.6	0.1	51.2	63.6
Bahrain	2011	662	29.6	46.1	29.6	9.0	12.6	2.5	0.2	27.2	32.0
	2015	706	31.9	44.8	31.9	11.4	10.3	1.4	0.2	31.3	32.5
Botswana	2011	767	42.6	18.3	42.6	13.1	24.6	1.3	0.0	42.7	42.6
	2015	859	45.6	20.7	45.6	12.4	20.0	0.9	0.4	45.5	45.8
Chile	2011	836	36.7	44.4	36.7	8.7	9.0	1.0	0.1	33.7	39.8
	2015	694	43.3	36.7	43.3	10.6	6.1	3.3	0.0	40.8	45.3
Chinese Taipei	2011	724	59.6	31.6	59.6	4.8	3.8	0.2	0.0	58.2	60.9
	2015	823	60.1	28.9	60.1	5.9	4.7	0.5	0.0	55.8	64.1
England	2011	530	57.8	17.6	57.8	20.0	4.1	0.3	0.3	59.8	55.9
	2015	681	55.2	17.3	55.2	19.6	6.7	0.9	0.3	51.1	59.0
Georgia	2011	652	41.9	13.7	41.9	13.4	27.0	4.0	0.0	44.7	39.8
	2015	574	51.9	19.1	51.9	10.4	15.9	2.4	0.3	50.4	53.2
Hong Kong SAR	2011	577	35.9	34.0	35.9	19.3	7.6	2.9	0.3	35.1	36.7
	2015	601	39.0	34.3	39.0	19.1	5.0	2.6	0.0	33.1	44.5
Hungary	2011	734	63.1	14.0	63.1	12.6	8.9	1.4	0.0	61.7	64.5
	2015	703	63.3	13.3	63.3	13.3	8.8	1.3	0.0	61.4	65.2
Iran, Islamic Rep. of	2011	873	25.7	29.7	25.7	16.0	26.6	2.0	0.0	25.3	26.0
	2015	891	29.2	30.8	29.2	11.3	26.7	2.1	0.0	29.3	29.0
Israel	2011	667	59.6	16.1	59.6	12.3	9.6	2.0	0.4	57.5	61.9
	2015	790	57.6	14.4	57.6	14.5	10.3	3.1	0.0	55.0	60.2
Italy	2011	577	61.3	16.4	61.3	13.6	7.9	0.8	0.0	57.8	64.8
	2015	640	64.0	16.8	64.0	9.8	7.9	1.4	0.0	60.6	67.6
Japan	2011	633	71.9	20.0	71.9	5.2	2.6	0.3	0.0	70.3	73.4
	2015	682	74.5	17.2	74.5	5.9	1.9	0.3	0.1	72.4	76.5
Jordan	2011	1112	27.3	43.3	27.3	9.1	17.5	2.8	0.0	28.2	26.6
	2015	1126	29.2	38.5	29.2	11.8	18.4	2.2	0.0	30.4	28.1
Kazakhstan	2011	631	34.9	26.0	34.9	13.0	23.5	2.4	0.1	33.6	36.3
	2015	702	47.4	26.5	47.4	13.0	11.2	1.9	0.1	41.7	53.0
Korea, Rep. of	2011	742	60.4	19.4	60.4	12.9	7.3	0.1	0.0	59.4	61.4
	2015	763	61.6	20.3	61.6	6.9	10.1	1.0	0.0	53.5	68.4
Lebanon	2011	561	40.6	17.4	40.6	18.9	18.1	4.3	0.8	40.5	40.6
	2015	526	41.1	21.0	41.1	15.5	16.4	5.0	1.0	38.3	44.1
Lithuania	2011	681	59.3	18.7	59.3	12.0	8.2	1.8	0.0	61.9	56.7
	2015	633	55.8	22.2	55.8	12.6	7.3	2.1	0.0	53.1	58.2

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_01 (S052261): Biology / Knowing Type: MC Key: B
Label: Why people shiver when cold

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	32.1	31.0	32.1	14.7	19.7	1.9	0.6	33.0	31.1
	2015	1401	35.6	29.8	35.6	13.6	19.1	1.6	0.3	34.9	36.4
Morocco	2011	1284	37.2	23.1	37.2	6.9	28.4	4.3	0.1	38.0	36.5
	2015	1870	39.1	26.1	39.1	8.5	22.5	3.7	0.1	41.3	37.4
New Zealand	2011	755	53.4	21.2	53.4	15.8	8.7	0.9	0.0	47.3	59.5
	2015	1151	55.9	20.3	55.9	16.2	5.9	1.4	0.3	50.9	61.3
Oman	2011	1362	37.2	38.8	37.2	11.2	10.6	2.1	0.1	38.6	35.7
	2015	1262	36.4	40.7	36.4	9.7	11.3	1.7	0.1	36.2	36.6
Qatar	2011	632	35.1	23.9	35.1	20.5	15.4	4.8	0.3	37.7	32.4
	2015	783	39.5	30.1	39.5	13.3	14.0	2.7	0.3	39.9	39.1
Russian Federation	2011	696	63.5	12.4	63.5	12.5	8.6	3.0	0.0	63.0	63.9
	2015	684	63.8	10.9	63.8	14.3	9.6	1.3	0.0	63.7	64.0
Saudi Arabia	2011	621	22.0	55.3	22.0	9.0	12.8	0.9	0.0	20.0	23.9
	2015	536	22.5	54.2	22.5	12.0	10.2	0.9	0.2	14.7	30.9
Singapore	2011	848	51.5	30.9	51.5	10.9	6.0	0.7	0.1	45.8	57.2
	2015	873	47.8	31.1	47.8	15.2	4.4	1.5	0.0	40.9	53.8
Slovenia	2011	632	65.4	11.8	65.4	9.5	9.9	3.0	0.4	65.5	65.3
	2015	615	64.0	14.9	64.0	11.3	8.7	1.1	0.0	63.8	64.2
South Africa	2011	1731	26.8	17.6	26.8	19.3	31.8	4.0	0.5	25.4	28.1
	2015	1794	29.7	19.2	29.7	14.8	34.3	1.5	0.5	29.1	30.4
Sweden	2011	803	58.1	16.1	58.1	15.7	8.1	2.0	0.0	58.2	58.1
	2015	581	63.1	14.7	63.1	12.6	5.8	3.5	0.2	60.2	65.8
Thailand	2011	875	43.0	27.6	43.0	7.8	19.9	1.7	0.0	41.0	45.5
	2015	931	44.2	30.0	44.2	6.5	18.0	1.1	0.1	43.9	44.6
Turkey	2011	994	36.0	35.3	36.0	12.2	14.7	1.8	0.0	36.2	35.9
	2015	875	35.2	36.2	35.2	11.4	16.0	1.2	0.0	30.5	39.5
United Arab Emirates	2011	2002	40.6	31.4	40.6	11.7	13.9	2.4	0.1	40.8	40.3
	2015	2562	41.0	30.9	41.0	12.6	13.3	2.2	0.0	38.1	43.9
United States	2011	1488	57.7	23.2	57.7	12.0	6.1	1.0	0.2	53.4	61.8
	2015	1452	60.3	21.6	60.3	12.7	4.4	0.6	0.4	56.5	64.1

International Avg (n=33)	2011	28565	46.1	25.6	46.1	12.8	13.4	2.0	0.1	45.2	47.0
	2015	31232	48.1	25.8	48.1	12.3	11.8	1.8	0.2	45.4	50.6

Ontario, Canada	2011	683	57.8	21.5	57.8	14.2	5.5	0.7	0.3	58.2	57.3
	2015	638	56.8	20.0	56.8	17.0	4.5	0.7	1.0	49.9	63.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_01 (S052261): Biology / Knowing Type: MC Key: B
Label: Why people shiver when cold

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	53.0	19.9	53.0	17.4	7.8	1.5	0.4	51.3	54.7
	2015	557	52.4	23.2	52.4	15.1	7.6	1.7	0.0	47.5	58.1
Norway (8)	2011	548	40.4	15.8	40.4	36.8	5.7	1.3	0.0	40.5	40.2
	2015	680	36.7	18.4	36.7	36.0	6.9	2.0	0.0	30.3	44.3
Abu Dhabi, UAE	2011	611	38.9	36.3	38.9	9.8	13.4	1.6	0.0	37.2	40.5
	2015	685	36.5	34.2	36.5	14.7	11.6	2.9	0.0	33.6	39.3
Dubai, UAE	2011	792	46.3	20.8	46.3	15.2	14.2	3.0	0.5	44.5	47.8
	2015	880	53.2	20.5	53.2	11.9	12.9	1.4	0.0	51.3	55.3
Florida, US	2011	247	58.6	19.8	58.6	13.3	7.3	0.9	0.0	53.8	63.1
	2015	295	60.3	26.4	60.3	7.3	4.9	0.6	0.5	53.9	65.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_02Z (S052092Z): Biology / Knowing Type: CR 2 Points
Label: Features of animal groups (DERIVED)

COUNTRY	Year	N	20 %	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	29.5	28.5	18.2	21.5	2.2	0.1	76.1	29.5	24.2	34.3
	2015	1468	25.1	47.5	0.0	24.6	2.8	0.1	72.5	25.1	24.0	26.2
Bahrain	2011	662	28.3	24.8	12.0	29.5	5.2	0.2	65.1	28.3	31.2	25.4
	2015	706	28.7	31.9	0.0	33.3	5.6	0.4	60.6	28.7	35.5	22.6
Botswana	2011	767	20.1	21.1	7.4	47.8	3.5	0.1	48.5	20.1	18.0	22.3
	2015	859	13.0	29.3	0.0	54.5	2.9	0.4	42.3	13.0	11.9	14.2
Chile	2011	836	26.9	29.3	16.2	25.3	1.9	0.5	72.3	26.9	27.1	26.7
	2015	694	17.0	46.0	0.0	31.5	5.4	0.0	63.1	17.0	16.8	17.2
Chinese Taipei	2011	724	18.1	26.4	20.3	34.6	0.6	0.0	64.8	18.1	16.0	20.1
	2015	823	16.2	52.4	0.0	31.0	0.4	0.0	68.6	16.2	14.6	17.7
England	2011	530	22.8	33.1	14.4	27.0	2.4	0.3	70.3	22.8	21.5	24.0
	2015	681	23.6	45.3	0.0	29.6	1.1	0.3	68.9	23.6	21.5	25.6
Georgia	2011	652	33.3	17.0	14.6	22.3	12.3	0.5	64.9	33.3	31.8	34.4
	2015	574	23.3	44.7	0.0	24.7	6.9	0.3	68.1	23.3	25.6	21.5
Hong Kong SAR	2011	577	17.1	25.5	21.9	33.4	1.8	0.3	64.5	17.1	16.0	18.2
	2015	601	12.6	48.1	0.0	38.5	0.7	0.0	60.7	12.6	12.1	13.0
Hungary	2011	732	13.4	46.2	22.6	16.3	1.5	0.0	82.2	13.4	12.2	14.7
	2015	703	14.7	66.0	0.0	18.7	0.6	0.0	80.7	14.7	12.8	16.6
Iran, Islamic Rep. of	2011	873	20.5	31.3	19.2	26.6	2.3	0.1	71.0	20.5	21.4	19.8
	2015	891	13.7	42.8	0.0	39.9	3.5	0.0	56.5	13.7	11.3	15.9
Israel	2011	667	22.3	27.5	19.3	27.9	2.5	0.4	69.2	22.3	21.1	23.6
	2015	790	18.9	46.1	0.0	31.2	3.8	0.0	65.0	18.9	16.8	21.0
Italy	2011	577	27.6	31.3	21.5	18.7	0.7	0.2	80.4	27.6	25.1	30.1
	2015	639	19.9	54.0	0.0	25.5	0.6	0.0	74.0	19.9	16.4	23.7
Japan	2011	633	17.9	28.8	27.2	24.4	1.7	0.0	73.9	17.9	20.7	15.5
	2015	682	16.9	58.5	0.0	23.3	1.2	0.1	75.3	16.9	16.9	16.8
Jordan	2011	1112	24.6	26.6	12.1	32.1	4.6	0.0	63.3	24.6	27.6	22.0
	2015	1126	19.4	37.2	0.0	38.9	4.4	0.0	56.6	19.4	20.2	18.7
Kazakhstan	2011	631	37.2	19.1	18.0	21.2	4.1	0.5	74.2	37.2	27.0	47.3
	2015	702	72.5	16.6	0.0	9.5	1.4	0.1	89.1	72.5	74.3	70.6
Korea, Rep. of	2011	742	28.7	25.6	19.5	24.8	1.4	0.1	73.7	28.7	29.6	27.8
	2015	763	13.7	35.9	0.0	49.1	1.3	0.0	49.6	13.7	11.5	15.5
Lebanon	2011	569	6.3	18.5	9.1	57.5	7.3	1.2	33.9	6.3	8.3	3.8
	2015	553	14.0	24.1	0.0	54.9	6.1	0.9	38.0	14.0	15.0	12.8
Lithuania	2011	681	23.4	27.9	23.0	23.6	1.3	0.9	74.2	23.4	22.1	24.8
	2015	633	23.1	49.3	0.0	24.6	3.0	0.0	72.4	23.1	20.0	25.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_02Z (S052092Z): Biology / Knowing Type: CR 2 Points
Label: Features of animal groups (DERIVED)

COUNTRY	Year	N	20 %	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	19.4	26.7	12.4	34.7	5.4	1.4	58.6	19.4	20.4	18.4
	2015	1401	31.6	40.7	0.0	24.2	2.9	0.5	72.3	31.6	32.5	30.7
Morocco	2011	1308	2.6	21.1	21.1	51.1	3.6	0.6	44.7	2.6	3.3	1.9
	2015	1870	13.3	34.3	0.0	48.7	3.5	0.2	47.6	13.3	13.1	13.4
New Zealand	2011	755	21.5	32.5	14.6	30.1	1.2	0.1	68.6	21.5	18.0	25.0
	2015	1151	21.4	45.2	0.0	30.3	2.9	0.3	66.5	21.4	22.5	20.2
Oman	2011	1362	23.6	23.3	11.8	34.7	6.4	0.2	58.7	23.6	28.5	18.4
	2015	1260	19.2	38.7	0.0	37.8	4.1	0.1	57.9	19.2	20.8	17.7
Qatar	2011	632	11.6	28.6	7.4	42.4	9.7	0.3	47.6	11.6	11.6	11.6
	2015	783	14.2	38.0	0.0	39.7	7.8	0.3	52.2	14.2	13.4	15.0
Russian Federation	2011	696	29.0	27.3	21.1	18.0	4.0	0.6	77.4	29.0	27.3	30.4
	2015	684	30.9	50.9	0.0	14.0	4.1	0.0	81.8	30.9	29.2	32.6
Saudi Arabia	2011	621	19.5	31.2	11.0	34.0	4.2	0.0	61.8	19.5	19.8	19.3
	2015	536	11.5	34.0	0.0	46.7	7.6	0.2	45.5	11.5	13.9	8.9
Singapore	2011	848	22.3	28.2	24.5	24.1	0.7	0.1	75.1	22.3	21.7	23.0
	2015	873	26.6	56.3	0.0	16.8	0.4	0.0	82.8	26.6	24.4	28.5
Slovenia	2011	632	25.5	26.8	23.3	23.6	0.5	0.4	75.5	25.5	24.1	26.9
	2015	615	15.7	58.5	0.0	25.1	0.7	0.0	74.2	15.7	12.1	18.5
South Africa	2011	1731	6.7	16.5	4.1	67.2	4.5	1.1	27.3	6.7	5.9	7.4
	2015	1794	5.0	21.4	0.0	71.1	1.9	0.5	26.4	5.0	5.4	4.7
Sweden	2011	803	18.5	30.6	15.0	31.7	4.0	0.1	64.2	18.5	16.2	20.9
	2015	581	24.3	43.5	0.0	29.9	1.9	0.5	67.7	24.3	22.6	25.7
Thailand	2011	875	22.8	28.1	13.9	31.0	4.1	0.0	64.8	22.8	23.3	22.2
	2015	931	22.2	42.4	0.0	31.8	3.5	0.1	64.6	22.2	20.7	23.9
Turkey	2011	994	17.7	27.1	11.8	39.6	3.6	0.3	56.5	17.7	15.7	19.4
	2015	875	16.0	37.2	0.0	45.6	1.1	0.2	53.2	16.0	17.3	14.7
United Arab Emirates	2011	2002	29.5	26.6	14.3	24.8	4.5	0.3	70.4	29.5	34.0	25.1
	2015	2560	16.6	43.8	0.0	35.3	4.2	0.0	60.4	16.6	15.8	17.4
United States	2011	1488	19.3	31.2	12.1	34.5	2.5	0.3	62.7	19.3	15.6	23.1
	2015	1452	16.7	48.4	0.0	32.9	1.6	0.4	65.1	16.7	14.7	18.7

International Avg (n=33)	2011	28595	21.4	27.1	16.2	31.4	3.5	0.3	64.7	21.4	20.8	22.0
	2015	31254	20.3	42.7	0.0	33.7	3.0	0.2	63.0	20.3	19.9	20.8

Ontario, Canada	2011	683	15.6	36.4	12.1	33.7	1.7	0.5	64.1	15.6	11.6	19.8
	2015	637	14.6	49.1	0.0	33.8	1.6	1.0	63.7	14.6	12.0	17.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_02Z (S052092Z): Biology / Knowing Type: CR 2 Points
Label: Features of animal groups (DERIVED)

COUNTRY	Year	N	20 %	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	866	21.1	29.8	12.9	34.8	1.0	0.4	63.8	21.1	20.3	21.9
	2015	559	19.3	52.1	0.0	28.6	0.0	0.0	71.4	19.3	16.0	23.2
Norway (8)	2011	548	14.1	36.1	9.1	38.5	2.2	0.0	59.4	14.1	18.6	9.2
	2015	680	15.3	41.3	0.0	41.1	2.4	0.0	56.6	15.3	14.7	16.0
Abu Dhabi, UAE	2011	611	28.6	27.7	12.9	27.4	3.5	0.0	69.2	28.6	34.1	23.6
	2015	684	12.1	38.3	0.0	44.4	5.2	0.0	50.3	12.1	13.2	11.0
Dubai, UAE	2011	792	25.4	26.0	15.3	27.7	4.8	0.8	66.7	25.4	29.8	21.7
	2015	880	20.9	49.0	0.0	28.0	2.0	0.0	70.0	20.9	20.0	21.9
Florida, US	2011	247	13.9	32.2	14.5	35.2	4.3	0.0	60.6	13.9	9.2	18.1
	2015	295	15.2	45.2	0.0	34.7	4.1	0.9	60.4	15.2	12.0	17.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_03A (S052263A): Biology / Reasoning Type: CR 1 Point
Label: Cellular respiration: tubes 1 & 2

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	14.9	61.3	23.7	0.1	14.9	12.0	17.5
	2015	1468	15.6	60.7	23.6	0.1	15.6	12.7	18.9
Bahrain	2011	662	9.0	49.9	40.4	0.6	9.0	12.9	5.3
	2015	706	8.5	56.9	34.2	0.4	8.5	8.3	8.6
Botswana	2011	767	5.7	83.5	10.7	0.1	5.7	6.5	4.8
	2015	860	4.3	79.9	15.3	0.4	4.3	5.8	2.6
Chile	2011	837	5.7	46.7	47.0	0.7	5.7	5.1	6.3
	2015	694	11.6	33.3	55.1	0.0	11.6	11.4	11.8
Chinese Taipei	2011	724	20.5	53.8	25.7	0.0	20.5	22.1	19.0
	2015	823	23.2	51.2	25.6	0.0	23.2	20.5	25.7
England	2011	530	23.7	55.5	20.5	0.3	23.7	24.7	22.7
	2015	681	24.2	55.2	20.2	0.3	24.2	23.9	24.5
Georgia	2011	652	3.4	19.5	76.3	0.8	3.4	3.3	3.4
	2015	574	5.9	27.8	66.0	0.3	5.9	6.5	5.3
Hong Kong SAR	2011	577	23.2	56.8	19.4	0.6	23.2	23.6	22.7
	2015	601	30.7	51.8	17.6	0.0	30.7	29.1	32.2
Hungary	2011	734	9.9	41.0	49.1	0.0	9.9	6.3	13.5
	2015	703	14.2	38.9	47.0	0.0	14.2	13.0	15.4
Iran, Islamic Rep. of	2011	873	9.9	45.7	44.1	0.3	9.9	11.4	8.6
	2015	891	8.2	43.9	47.7	0.2	8.2	9.3	7.1
Israel	2011	668	10.6	51.1	37.9	0.4	10.6	10.2	10.9
	2015	790	11.0	46.3	42.4	0.3	11.0	11.0	10.9
Italy	2011	577	6.2	35.2	58.4	0.2	6.2	3.7	8.6
	2015	640	9.5	31.3	59.2	0.0	9.5	6.9	12.3
Japan	2011	633	37.0	44.0	19.0	0.0	37.0	32.8	40.7
	2015	682	35.0	46.8	18.0	0.1	35.0	35.1	34.9
Jordan	2011	1112	6.6	70.3	23.1	0.0	6.6	5.7	7.4
	2015	1126	7.5	66.9	25.6	0.0	7.5	8.3	6.7
Kazakhstan	2011	631	22.4	32.9	44.2	0.5	22.4	19.9	25.0
	2015	702	47.6	26.4	25.9	0.1	47.6	48.3	46.9
Korea, Rep. of	2011	742	22.8	60.5	16.6	0.1	22.8	19.3	26.7
	2015	763	26.2	55.6	18.2	0.0	26.2	20.6	30.8
Lebanon	2011	569	9.4	47.7	41.4	1.5	9.4	8.1	10.9
	2015	553	9.2	41.5	48.5	0.9	9.2	11.5	6.6
Lithuania	2011	681	10.0	44.3	44.8	0.9	10.0	9.1	10.9
	2015	633	15.3	39.5	45.2	0.0	15.3	15.1	15.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_03A (S052263A): Biology / Reasoning Type: CR 1 Point
Label: Cellular respiration: tubes 1 & 2

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	9.3	64.1	24.8	1.8	9.3	9.7	8.9
	2015	1401	10.3	62.9	26.2	0.6	10.3	8.6	11.9
Morocco	2011	1308	16.0	36.9	46.5	0.7	16.0	17.7	14.5
	2015	1872	2.6	51.2	46.0	0.2	2.6	3.6	1.8
New Zealand	2011	755	14.6	64.2	21.1	0.1	14.6	12.0	17.3
	2015	1151	21.2	53.7	24.7	0.5	21.2	20.7	21.7
Oman	2011	1361	5.1	64.7	30.0	0.2	5.1	5.8	4.5
	2015	1262	6.2	71.2	22.4	0.2	6.2	8.2	4.4
Qatar	2011	632	8.6	62.7	28.3	0.4	8.6	12.5	4.6
	2015	783	13.8	57.0	28.8	0.3	13.8	16.0	11.6
Russian Federation	2011	696	17.2	36.4	45.9	0.6	17.2	14.6	19.4
	2015	682	21.0	31.6	47.4	0.0	21.0	19.7	22.2
Saudi Arabia	2011	621	2.7	70.3	27.0	0.0	2.7	3.2	2.2
	2015	536	11.6	49.0	39.2	0.2	11.6	18.2	4.5
Singapore	2011	848	41.6	52.6	5.7	0.1	41.6	38.9	44.4
	2015	873	42.6	51.8	5.6	0.0	42.6	39.5	45.3
Slovenia	2011	632	12.5	46.7	40.4	0.4	12.5	10.0	15.0
	2015	615	11.7	45.4	42.9	0.0	11.7	11.3	12.1
South Africa	2011	1731	12.5	64.9	21.4	1.2	12.5	13.6	11.5
	2015	1794	12.8	72.0	14.6	0.6	12.8	16.0	9.2
Sweden	2011	803	11.8	47.5	40.5	0.1	11.8	8.6	14.9
	2015	581	16.1	41.9	41.5	0.5	16.1	14.6	17.4
Thailand	2011	875	3.3	50.2	46.5	0.0	3.3	2.5	4.4
	2015	931	4.0	58.5	37.3	0.2	4.0	4.1	3.9
Turkey	2011	994	8.3	49.0	42.4	0.3	8.3	11.4	5.7
	2015	875	11.3	59.0	29.0	0.7	11.3	14.0	8.8
United Arab Emirates	2011	2002	8.0	65.1	26.5	0.4	8.0	7.6	8.3
	2015	2562	10.0	66.7	23.2	0.1	10.0	11.2	8.9
United States	2011	1488	14.4	73.2	12.0	0.3	14.4	12.5	16.2
	2015	1452	15.2	74.6	9.7	0.5	15.2	14.1	16.4
International Avg (n=33)	2011	28598	13.2	53.0	33.4	0.4	13.2	12.6	13.8
	2015	31260	15.7	51.5	32.5	0.2	15.7	15.7	15.7
Ontario, Canada	2011	683	17.1	56.7	25.7	0.5	17.1	15.9	18.3
	2015	637	18.6	57.6	22.8	1.0	18.6	18.3	19.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_03A (S052263A): Biology / Reasoning Type: CR 1 Point
Label: Cellular respiration: tubes 1 & 2

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	866	14.5	56.2	28.8	0.4	14.5	14.7	14.3
	2015	559	17.7	56.9	25.4	0.0	17.7	13.8	22.3
Norway (8)	2011	548	7.3	58.8	33.6	0.3	7.3	5.2	9.5
	2015	680	7.3	48.8	43.9	0.0	7.3	5.7	9.3
Abu Dhabi, UAE	2011	611	7.7	65.2	26.8	0.3	7.7	8.0	7.4
	2015	685	8.1	69.8	21.9	0.2	8.1	10.1	6.2
Dubai, UAE	2011	792	13.0	59.9	26.4	0.8	13.0	10.9	14.7
	2015	880	13.2	67.2	19.6	0.0	13.2	12.4	14.0
Florida, US	2011	247	16.0	71.3	12.6	0.0	16.0	17.8	14.4
	2015	295	9.6	71.5	18.0	0.9	9.6	4.7	13.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_03B (S052263B): Biology / Reasoning Type: CR 1 Point
Label: Cellular respiration: tube 4

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	20.3	57.1	22.4	0.2	20.3	15.2	25.0
	2015	1468	20.9	55.0	24.1	0.1	20.9	17.1	25.1
Bahrain	2011	662	11.7	54.7	32.9	0.7	11.7	17.9	5.9
	2015	706	16.5	52.4	30.6	0.4	16.5	18.1	15.0
Botswana	2011	767	6.3	80.7	12.7	0.3	6.3	5.5	7.2
	2015	860	5.4	75.5	18.3	0.7	5.4	6.0	4.7
Chile	2011	837	9.2	52.2	37.8	0.8	9.2	7.8	10.6
	2015	694	9.5	41.1	48.9	0.5	9.5	6.5	12.0
Chinese Taipei	2011	724	23.7	58.9	17.4	0.0	23.7	22.8	24.4
	2015	823	28.2	54.7	17.1	0.0	28.2	28.7	27.8
England	2011	530	26.0	55.8	17.9	0.3	26.0	26.2	25.8
	2015	681	25.5	53.7	20.4	0.3	25.5	27.5	23.6
Georgia	2011	652	4.2	16.9	77.9	1.0	4.2	4.4	4.1
	2015	574	7.3	25.5	66.9	0.3	7.3	9.2	5.7
Hong Kong SAR	2011	577	43.7	39.6	16.0	0.6	43.7	44.3	43.2
	2015	601	50.2	35.0	14.8	0.0	50.2	49.5	50.9
Hungary	2011	734	15.9	41.7	42.4	0.1	15.9	14.1	17.7
	2015	703	18.6	37.9	43.6	0.0	18.6	16.2	21.0
Iran, Islamic Rep. of	2011	873	7.4	50.0	42.3	0.3	7.4	8.2	6.7
	2015	891	7.6	44.8	47.1	0.5	7.6	7.1	7.9
Israel	2011	668	20.4	48.9	30.1	0.6	20.4	19.8	21.1
	2015	790	18.2	42.9	38.2	0.7	18.2	17.2	19.2
Italy	2011	577	13.5	41.2	45.0	0.3	13.5	13.1	13.9
	2015	639	15.7	35.6	48.7	0.0	15.7	13.0	18.7
Japan	2011	633	53.8	37.9	8.3	0.0	53.8	51.9	55.5
	2015	682	52.7	37.4	9.8	0.1	52.7	54.8	50.7
Jordan	2011	1112	10.7	70.4	18.9	0.0	10.7	11.0	10.4
	2015	1126	9.5	67.3	23.2	0.0	9.5	10.3	8.7
Kazakhstan	2011	631	23.3	26.5	49.1	1.0	23.3	22.6	24.1
	2015	702	42.4	29.2	28.4	0.1	42.4	41.5	43.3
Korea, Rep. of	2011	742	46.5	43.3	10.1	0.1	46.5	44.3	49.0
	2015	763	42.6	44.6	12.9	0.0	42.6	39.6	45.0
Lebanon	2011	569	12.1	46.0	40.3	1.6	12.1	11.6	12.6
	2015	553	13.7	37.9	46.8	1.5	13.7	15.3	12.0
Lithuania	2011	681	16.0	42.3	40.7	1.0	16.0	15.2	16.8
	2015	633	25.0	31.1	43.9	0.0	25.0	25.3	24.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_03B (S052263B): Biology / Reasoning Type: CR 1 Point
Label: Cellular respiration: tube 4

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	7.8	65.3	24.8	2.1	7.8	6.5	9.1
	2015	1401	15.2	61.0	22.9	0.8	15.2	13.7	16.7
Morocco	2011	0	.	.	.	.	.	.	.
	2015	1872	6.2	52.4	41.0	0.3	6.2	7.0	5.6
New Zealand	2011	755	21.2	60.6	18.0	0.1	21.2	17.4	24.9
	2015	1151	23.4	52.2	23.9	0.5	23.4	21.8	25.2
Oman	2011	1362	7.8	63.4	28.6	0.2	7.8	9.6	5.9
	2015	1261	11.3	67.6	20.8	0.3	11.3	15.4	7.5
Qatar	2011	632	10.3	56.9	32.4	0.4	10.3	11.7	8.8
	2015	783	14.2	59.1	26.1	0.5	14.2	14.1	14.4
Russian Federation	2011	696	27.8	26.8	44.8	0.6	27.8	27.3	28.3
	2015	683	29.5	27.8	42.7	0.0	29.5	29.2	29.8
Saudi Arabia	2011	621	4.4	74.7	20.9	0.0	4.4	4.9	3.9
	2015	536	9.1	52.4	38.3	0.2	9.1	13.8	4.1
Singapore	2011	848	60.1	35.3	4.4	0.2	60.1	59.3	60.8
	2015	873	58.9	36.4	4.7	0.0	58.9	56.7	60.9
Slovenia	2011	632	15.9	49.4	34.3	0.4	15.9	14.0	17.8
	2015	615	18.9	43.1	37.8	0.2	18.9	19.0	18.9
South Africa	2011	1731	8.6	61.1	28.7	1.6	8.6	8.9	8.3
	2015	1794	6.3	70.9	21.7	1.0	6.3	6.2	6.5
Sweden	2011	803	15.7	45.3	38.9	0.1	15.7	12.2	19.1
	2015	581	17.5	43.0	38.8	0.7	17.5	19.4	16.0
Thailand	2011	875	6.2	44.5	49.3	0.0	6.2	5.1	7.6
	2015	931	6.8	54.1	38.8	0.3	6.8	6.5	7.0
Turkey	2011	994	9.3	50.7	39.7	0.3	9.3	10.9	7.9
	2015	875	12.1	58.7	28.5	0.7	12.1	12.3	12.0
United Arab Emirates	2011	2002	13.4	62.7	23.4	0.6	13.4	15.7	11.0
	2015	2562	15.2	61.5	23.2	0.1	15.2	17.2	13.2
United States	2011	1488	17.9	69.2	12.5	0.4	17.9	15.3	20.5
	2015	1452	19.1	69.5	10.7	0.7	19.1	18.6	19.5
International Avg (n=33)	2011	27291	18.5	50.9	30.1	0.5	18.5	18.0	19.0
	2015	31259	20.4	48.8	30.4	0.3	20.4	20.4	20.4
Ontario, Canada	2011	683	19.7	55.3	24.4	0.6	19.7	18.1	21.4
	2015	637	23.9	52.7	22.2	1.2	23.9	23.1	24.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_03B (S052263B): Biology / Reasoning Type: CR 1 Point
Label: Cellular respiration: tube 4

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	866	18.4	52.8	28.1	0.6	18.4	15.6	21.4
	2015	559	25.7	49.8	23.6	1.0	25.7	23.8	27.9
Norway (8)	2011	548	9.3	57.5	32.9	0.3	9.3	9.2	9.5
	2015	680	9.2	43.8	47.0	0.0	9.2	9.6	8.7
Abu Dhabi, UAE	2011	611	12.5	64.0	23.0	0.6	12.5	15.5	9.7
	2015	685	12.8	63.3	23.6	0.2	12.8	15.3	10.5
Dubai, UAE	2011	792	19.6	55.4	24.2	0.8	19.6	19.4	19.7
	2015	880	21.3	59.4	19.3	0.0	21.3	22.1	20.4
Florida, US	2011	247	18.2	69.7	12.2	0.0	18.2	18.3	18.0
	2015	295	12.1	67.4	19.6	0.9	12.1	11.1	12.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_04 (S052265): Biology / Applying Type: CR 1 Point
Label: Manx cats bred together

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	37.3	32.5	29.5	0.4	0.4	37.3	39.3	35.4
	2015	1468	42.6	21.7	34.8	0.9	0.1	42.6	43.2	41.9
Bahrain	2011	662	15.8	19.3	62.5	1.6	0.7	15.8	20.9	11.0
	2015	706	19.4	18.5	60.2	1.5	0.4	19.4	26.7	12.9
Botswana	2011	767	5.7	22.8	69.5	1.7	0.3	5.7	5.3	6.2
	2015	860	16.9	11.2	68.5	2.3	1.0	16.9	21.6	11.6
Chile	2011	837	31.7	31.6	34.8	1.0	1.0	31.7	32.4	30.9
	2015	694	22.1	20.7	53.2	3.4	0.5	22.1	19.5	24.3
Chinese Taipei	2011	724	24.1	15.5	47.5	12.8	0.0	24.1	27.0	21.4
	2015	823	27.4	12.1	59.8	0.7	0.0	27.4	30.6	24.3
England	2011	530	59.7	14.3	23.8	1.8	0.3	59.7	67.5	52.5
	2015	681	58.0	17.3	23.4	1.0	0.3	58.0	64.0	52.3
Georgia	2011	652	15.2	21.8	59.0	2.8	1.3	15.2	17.6	13.3
	2015	574	11.3	28.8	58.2	1.5	0.3	11.3	12.1	10.6
Hong Kong SAR	2011	577	36.9	15.5	46.6	0.3	0.6	36.9	37.9	36.0
	2015	601	36.4	9.0	53.7	1.0	0.0	36.4	41.0	32.0
Hungary	2011	734	24.2	21.7	53.9	0.1	0.1	24.2	24.7	23.7
	2015	703	20.9	14.9	63.3	0.9	0.0	20.9	23.9	17.9
Iran, Islamic Rep. of	2011	873	18.2	47.9	32.5	1.0	0.3	18.2	19.6	17.1
	2015	891	43.2	25.9	29.1	1.2	0.6	43.2	52.2	35.1
Israel	2011	668	44.9	22.4	31.4	0.6	0.6	44.9	46.7	43.1
	2015	790	42.4	19.7	34.7	2.5	0.7	42.4	45.3	39.5
Italy	2011	577	18.8	25.5	52.9	2.5	0.3	18.8	19.1	18.5
	2015	639	15.3	17.2	64.9	2.5	0.1	15.3	15.2	15.5
Japan	2011	633	39.1	27.0	33.8	0.1	0.0	39.1	41.0	37.4
	2015	682	29.3	12.3	57.4	0.8	0.1	29.3	30.0	28.7
Jordan	2011	1112	35.9	14.3	48.6	1.1	0.0	35.9	44.1	28.7
	2015	1126	19.3	14.4	65.2	1.0	0.0	19.3	23.2	15.8
Kazakhstan	2011	631	49.5	14.6	29.2	5.7	1.0	49.5	52.1	46.9
	2015	702	59.5	2.3	37.6	0.6	0.1	59.5	57.8	61.1
Korea, Rep. of	2011	742	17.6	47.2	34.9	0.3	0.1	17.6	21.3	13.5
	2015	763	2.9	54.3	42.3	0.5	0.0	2.9	2.8	3.0
Lebanon	2011	569	11.1	17.0	62.3	7.9	1.6	11.1	9.1	13.8
	2015	552	6.5	21.0	60.6	10.4	1.4	6.5	5.4	7.8
Lithuania	2011	681	30.3	19.9	47.8	0.9	1.0	30.3	33.5	27.1
	2015	633	37.2	17.2	45.4	0.2	0.0	37.2	44.5	30.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_04 (S052265): Biology / Applying Type: CR 1 Point
Label: Manx cats bred together

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	11.3	26.1	57.4	3.0	2.3	11.3	13.8	8.7
	2015	1401	45.4	18.0	33.5	1.9	1.2	45.4	48.5	42.4
Morocco	2011	1308	16.1	38.3	41.7	3.2	0.7	16.1	18.1	14.4
	2015	1872	11.0	28.8	56.0	3.8	0.4	11.0	14.1	8.6
New Zealand	2011	755	36.5	14.1	48.1	1.1	0.1	36.5	35.9	37.2
	2015	1151	38.1	21.0	39.3	1.1	0.5	38.1	37.7	38.5
Oman	2011	1362	13.7	12.1	71.7	2.3	0.2	13.7	17.3	9.9
	2015	1261	23.1	19.5	54.9	2.2	0.3	23.1	30.4	16.2
Qatar	2011	382	19.4	18.3	45.3	16.7	0.4	19.4	19.3	19.4
	2015	782	21.7	13.9	60.9	3.0	0.5	21.7	24.8	18.5
Russian Federation	2011	696	39.4	13.4	46.0	0.7	0.6	39.4	42.9	36.4
	2015	683	36.8	20.5	41.9	0.7	0.0	36.8	37.9	35.7
Saudi Arabia	2011	621	5.9	6.4	86.2	1.5	0.0	5.9	6.1	5.8
	2015	536	9.2	2.0	86.4	2.3	0.2	9.2	12.4	5.7
Singapore	2011	848	59.1	15.1	25.0	0.6	0.2	59.1	61.7	56.3
	2015	873	60.5	13.4	25.6	0.4	0.0	60.5	62.6	58.7
Slovenia	2011	632	31.2	40.1	28.0	0.3	0.4	31.2	30.7	31.7
	2015	615	38.2	14.8	46.7	0.1	0.2	38.2	44.2	33.5
South Africa	2011	1731	8.0	15.4	71.8	3.1	1.7	8.0	8.2	7.8
	2015	1794	9.9	7.8	79.4	1.7	1.2	9.9	11.7	8.0
Sweden	2011	801	31.8	29.5	37.3	1.4	0.1	31.8	32.1	31.3
	2015	581	36.9	24.1	37.0	1.2	0.7	36.9	38.1	36.2
Thailand	2011	875	24.3	25.5	47.2	3.0	0.0	24.3	26.0	22.0
	2015	931	28.8	20.4	48.5	1.9	0.3	28.8	29.4	28.2
Turkey	2011	994	30.7	25.1	42.7	1.1	0.4	30.7	37.8	24.4
	2015	875	40.7	21.5	36.8	0.3	0.7	40.7	45.0	36.8
United Arab Emirates	2011	2001	20.8	22.1	54.4	2.1	0.6	20.8	24.2	17.4
	2015	2562	26.5	18.9	52.6	1.9	0.1	26.5	29.9	23.0
United States	2011	1488	46.1	29.2	23.5	0.6	0.6	46.1	45.9	46.4
	2015	1452	51.2	22.8	24.2	1.1	0.7	51.2	52.7	49.7

International Avg (n=33)	2011	28346	27.6	23.1	46.3	2.5	0.5	27.6	29.7	25.6
	2015	31257	30.0	18.4	49.6	1.7	0.4	30.0	32.7	27.4

Ontario, Canada	2011	683	40.6	20.6	36.4	1.8	0.6	40.6	46.1	34.9
	2015	637	45.6	22.2	29.9	1.1	1.2	45.6	48.4	42.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_04 (S052265): Biology / Applying Type: CR 1 Point
Label: Manx cats bred together

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	866	38.5	16.8	42.6	1.5	0.6	38.5	41.0	36.0
	2015	559	46.5	10.9	40.1	1.6	1.0	46.5	46.3	46.6
Norway (8)	2011	548	29.3	25.8	43.7	0.9	0.3	29.3	30.9	27.5
	2015	680	28.5	33.6	35.9	2.0	0.0	28.5	28.8	28.0
Abu Dhabi, UAE	2011	611	18.4	21.0	58.2	1.7	0.6	18.4	20.3	16.7
	2015	685	26.7	14.5	56.4	2.2	0.2	26.7	33.3	20.6
Dubai, UAE	2011	791	29.9	26.8	40.6	1.9	0.8	29.9	33.4	27.0
	2015	880	35.7	23.9	38.5	1.8	0.1	35.7	38.7	32.5
Florida, US	2011	247	47.8	25.4	25.6	1.2	0.0	47.8	47.8	47.7
	2015	295	45.3	18.3	34.7	0.8	0.9	45.3	50.1	41.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_05 (S052280): Chemistry / Knowing Type: MC Key: A
Label: Property of nonmetals

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	57.2	57.2	13.1	17.4	9.4	2.5	0.4	57.8	56.8
	2015	1468	57.1	57.1	14.3	14.6	9.8	4.2	0.1	54.0	60.6
Bahrain	2011	662	42.0	42.0	20.4	22.8	12.6	1.4	0.7	46.5	37.8
	2015	706	49.9	49.9	18.9	15.2	13.8	1.8	0.4	56.9	43.7
Botswana	2011	767	67.5	67.5	9.8	8.8	12.6	1.0	0.3	68.1	66.8
	2015	860	64.7	64.7	9.5	10.4	10.9	3.2	1.3	69.2	59.7
Chile	2011	837	42.4	42.4	21.5	15.7	16.4	3.0	1.0	40.1	44.8
	2015	694	44.2	44.2	16.4	21.9	13.4	3.5	0.7	42.6	45.5
Chinese Taipei	2011	724	70.1	70.1	12.2	9.9	7.1	0.7	0.0	72.4	67.9
	2015	823	69.3	69.3	12.0	13.3	4.7	0.5	0.0	69.7	69.1
England	2011	530	73.1	73.1	9.4	8.5	5.8	2.9	0.3	78.5	68.1
	2015	681	67.5	67.5	11.2	10.6	6.2	4.1	0.3	68.7	66.3
Georgia	2011	652	39.8	39.8	18.1	21.4	12.5	7.0	1.3	33.5	44.6
	2015	574	64.6	64.6	8.8	15.7	7.6	3.0	0.3	65.0	64.3
Hong Kong SAR	2011	577	55.4	55.4	19.3	12.0	11.3	1.5	0.6	56.0	54.8
	2015	601	59.7	59.7	15.5	11.3	11.3	2.2	0.0	57.8	61.6
Hungary	2011	734	47.4	47.4	26.4	15.6	6.0	4.6	0.1	46.1	48.6
	2015	703	49.1	49.1	25.3	19.2	4.7	1.7	0.0	51.1	47.0
Iran, Islamic Rep. of	2011	873	56.2	56.2	17.4	14.8	9.8	1.5	0.3	58.1	54.6
	2015	891	50.8	50.8	23.0	13.3	9.9	2.3	0.6	52.0	49.8
Israel	2011	668	58.2	58.2	17.7	16.8	4.7	2.1	0.6	60.7	55.5
	2015	790	59.6	59.6	15.6	15.8	4.1	4.2	0.7	64.2	55.0
Italy	2011	577	51.9	51.9	17.3	13.8	13.5	3.3	0.3	47.5	56.1
	2015	640	55.2	55.2	16.7	14.1	11.4	2.5	0.1	53.9	56.5
Japan	2011	633	65.3	65.3	13.9	11.0	8.2	1.6	0.0	63.7	66.7
	2015	682	67.1	67.1	10.7	9.6	11.0	1.5	0.1	66.0	68.0
Jordan	2011	1112	39.5	39.5	19.9	21.8	16.8	2.0	0.0	41.9	37.4
	2015	1126	38.7	38.7	18.6	21.0	19.1	2.5	0.1	40.1	37.4
Kazakhstan	2011	631	68.7	68.7	9.2	8.8	9.8	2.6	1.0	69.5	67.9
	2015	702	78.9	78.9	7.8	5.3	5.5	2.4	0.1	82.0	75.8
Korea, Rep. of	2011	742	66.0	66.0	15.0	9.7	9.2	0.0	0.1	70.0	61.7
	2015	763	68.4	68.4	12.5	10.8	7.9	0.4	0.0	63.5	72.4
Lebanon	2011	558	50.3	50.3	15.3	18.8	10.0	3.7	1.9	52.9	46.9
	2015	527	56.2	56.2	15.1	16.2	6.6	4.4	1.5	59.1	53.0
Lithuania	2011	681	61.2	61.2	11.1	14.6	10.0	2.2	1.0	63.3	59.1
	2015	633	58.0	58.0	14.7	14.0	10.5	2.9	0.0	57.2	58.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_05 (S052280): Chemistry / Knowing Type: MC Key: A
Label: Property of nonmetals

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	41.6	41.6	21.4	18.0	16.0	0.7	2.3	44.1	39.0
	2015	1401	37.6	37.6	24.4	18.6	16.9	1.3	1.3	38.3	36.9
Morocco	2011	1276	25.6	25.6	30.5	24.0	15.6	3.6	0.8	24.3	26.7
	2015	1872	30.3	30.3	24.9	22.2	17.7	4.6	0.4	31.6	29.2
New Zealand	2011	755	46.7	46.7	16.2	21.7	13.2	2.2	0.1	41.5	51.7
	2015	1151	47.4	47.4	18.2	19.9	11.5	2.5	0.5	39.5	56.2
Oman	2011	1362	37.5	37.5	22.0	22.4	14.9	2.9	0.3	41.0	33.8
	2015	1261	42.7	42.7	19.9	21.4	13.6	2.1	0.3	49.1	36.7
Qatar	2011	632	49.3	49.3	18.2	16.3	13.0	2.7	0.5	51.1	47.4
	2015	783	56.0	56.0	14.8	12.3	13.4	3.0	0.5	60.3	51.4
Russian Federation	2011	696	71.3	71.3	8.9	10.8	5.6	2.8	0.6	74.0	69.1
	2015	684	74.3	74.3	8.8	8.2	4.7	3.9	0.1	75.5	73.2
Saudi Arabia	2011	621	41.8	41.8	24.0	17.3	16.2	0.6	0.0	44.2	39.7
	2015	536	35.7	35.7	20.7	27.0	15.1	1.4	0.2	36.3	34.9
Singapore	2011	848	80.1	80.1	8.3	4.6	6.1	0.7	0.2	79.2	80.9
	2015	873	83.2	83.2	5.7	6.2	4.1	0.9	0.0	83.5	83.0
Slovenia	2011	632	66.7	66.7	10.9	13.4	2.5	6.2	0.4	65.6	67.7
	2015	615	60.4	60.4	9.5	16.3	3.0	10.7	0.2	63.7	57.8
South Africa	2011	1731	41.7	41.7	18.4	19.3	14.8	3.7	2.1	41.0	42.1
	2015	1794	38.1	38.1	22.9	18.4	16.9	2.4	1.3	38.8	37.2
Sweden	2011	803	69.8	69.8	9.7	9.1	5.4	5.9	0.1	67.6	71.7
	2015	581	70.7	70.7	10.2	8.7	4.1	5.6	0.7	69.8	71.3
Thailand	2011	875	47.5	47.5	17.1	22.4	10.5	2.4	0.0	49.1	45.5
	2015	931	55.2	55.2	17.0	17.5	8.5	1.4	0.3	54.6	56.0
Turkey	2011	994	45.2	45.2	16.1	15.9	21.2	1.2	0.4	48.1	42.7
	2015	875	53.0	53.0	17.9	13.4	14.6	0.4	0.7	53.3	52.8
United Arab Emirates	2011	2001	53.6	53.6	14.0	17.8	12.3	1.6	0.6	54.2	53.1
	2015	2562	57.0	57.0	13.6	15.7	12.5	1.2	0.1	60.0	54.0
United States	2011	1488	60.4	60.4	13.8	14.7	9.1	1.5	0.6	60.0	60.9
	2015	1452	64.0	64.0	11.5	12.1	9.7	1.8	0.8	63.8	64.2

International Avg (n=33)	2011	28555	54.3	54.3	16.3	15.4	11.0	2.5	0.6	54.9	53.6
	2015	31235	56.5	56.5	15.3	14.9	10.1	2.7	0.4	57.3	55.7

Ontario, Canada	2011	683	41.8	41.8	21.2	19.3	15.3	1.8	0.6	36.3	47.5
	2015	633	49.3	49.3	17.5	17.4	13.6	0.8	1.3	45.5	53.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_05 (S052280): Chemistry / Knowing Type: MC Key: A
Label: Property of nonmetals

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	50.3	50.3	11.3	16.0	14.2	7.5	0.7	49.5	51.1
	2015	551	50.9	50.9	13.8	18.0	13.8	1.6	1.9	49.2	53.0
Norway (8)	2011	548	48.3	48.3	19.5	15.4	11.0	5.6	0.3	43.6	53.3
	2015	680	39.0	39.0	17.2	23.5	13.0	7.3	0.0	34.5	44.3
Abu Dhabi, UAE	2011	611	50.1	50.1	13.9	18.8	14.9	1.5	0.8	50.9	49.3
	2015	685	46.0	46.0	16.1	19.6	17.1	0.9	0.2	50.7	41.7
Dubai, UAE	2011	791	66.1	66.1	10.0	13.0	8.7	1.4	0.8	67.8	64.8
	2015	880	74.0	74.0	9.5	9.4	5.8	1.1	0.1	74.3	73.8
Florida, US	2011	247	57.8	57.8	14.3	16.5	9.8	1.6	0.0	50.9	64.2
	2015	295	57.8	57.8	13.0	17.0	9.7	1.7	0.9	52.7	61.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_06 (S052256): Chemistry / Applying Type: MC Key: D
Label: Cause distilled water taste

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	42.7	13.1	11.7	31.1	42.7	0.9	0.6	39.9	45.2
	2015	1468	41.6	16.7	8.7	30.2	41.6	2.7	0.1	39.7	43.8
Bahrain	2011	662	40.3	20.3	14.8	21.5	40.3	2.2	0.9	43.9	36.8
	2015	706	41.3	23.5	14.1	19.6	41.3	0.9	0.7	45.2	37.8
Botswana	2011	767	26.7	24.3	13.0	33.1	26.7	2.7	0.3	25.3	28.1
	2015	859	21.6	34.8	10.8	28.7	21.6	2.1	2.0	23.9	19.0
Chile	2011	837	34.3	15.1	12.6	34.7	34.3	2.0	1.2	34.4	34.2
	2015	694	34.8	16.8	10.8	33.7	34.8	3.1	0.9	31.0	37.9
Chinese Taipei	2011	724	61.8	18.2	4.9	14.5	61.8	0.5	0.0	61.4	62.3
	2015	823	64.2	18.7	3.4	12.9	64.2	0.8	0.0	66.0	62.5
England	2011	530	50.2	13.8	8.2	24.4	50.2	3.1	0.3	49.9	50.4
	2015	681	49.7	13.8	7.5	26.8	49.7	1.7	0.5	51.7	47.9
Georgia	2011	652	26.1	34.5	11.6	21.8	26.1	4.7	1.3	24.9	27.0
	2015	574	37.6	29.4	7.9	20.0	37.6	4.6	0.6	40.8	35.0
Hong Kong SAR	2011	576	59.1	13.6	5.7	19.3	59.1	1.5	0.8	60.0	58.1
	2015	601	62.6	14.3	5.4	15.7	62.6	2.0	0.0	61.7	63.4
Hungary	2011	734	54.2	18.9	6.2	18.4	54.2	2.1	0.1	54.6	53.9
	2015	703	54.7	17.7	9.0	17.6	54.7	0.9	0.0	54.2	55.2
Iran, Islamic Rep. of	2011	873	43.5	21.2	10.4	21.3	43.5	3.2	0.3	41.4	45.3
	2015	891	42.2	20.8	14.8	18.3	42.2	2.8	1.1	46.8	38.1
Israel	2011	668	45.2	12.3	13.3	25.9	45.2	2.7	0.6	45.3	45.2
	2015	790	45.2	13.3	11.0	25.1	45.2	4.5	0.9	44.6	45.7
Italy	2011	576	45.8	15.8	7.1	27.2	45.8	3.6	0.4	45.6	46.0
	2015	640	41.8	16.5	10.3	27.7	41.8	3.6	0.1	41.9	41.7
Japan	2011	633	52.7	18.8	11.7	15.6	52.7	1.2	0.0	52.7	52.7
	2015	682	58.0	16.9	9.9	14.5	58.0	0.4	0.3	62.2	54.1
Jordan	2011	1112	37.0	27.2	12.4	20.7	37.0	2.7	0.0	40.4	33.9
	2015	1126	32.1	35.7	10.2	19.8	32.1	2.2	0.1	37.4	27.1
Kazakhstan	2011	631	37.9	32.1	6.3	18.6	37.9	3.8	1.3	38.0	37.8
	2015	702	52.7	26.9	2.9	13.0	52.7	4.4	0.1	54.0	51.3
Korea, Rep. of	2011	742	71.3	8.3	3.3	16.8	71.3	0.1	0.1	70.6	72.1
	2015	763	60.7	12.9	2.5	23.5	60.7	0.4	0.0	59.5	61.7
Lebanon	2011	563	29.1	39.4	10.6	14.6	29.1	4.2	2.3	28.7	29.6
	2015	533	29.1	34.4	9.8	16.5	29.1	8.6	1.5	30.2	28.0
Lithuania	2011	681	38.1	21.1	14.3	23.8	38.1	1.7	1.0	37.8	38.4
	2015	633	42.1	25.2	9.4	20.8	42.1	2.5	0.0	38.4	45.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_06 (S052256): Chemistry / Applying Type: MC Key: D
Label: Cause distilled water taste

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	31.7	25.2	13.7	26.1	31.7	0.9	2.3	31.9	31.6
	2015	1401	39.2	31.1	7.5	19.5	39.2	1.2	1.5	37.7	40.7
Morocco	2011	1275	28.7	33.9	15.5	18.3	28.7	2.7	0.9	30.0	27.6
	2015	1870	28.2	35.2	15.7	16.8	28.2	3.3	0.8	31.4	25.6
New Zealand	2011	755	43.3	14.2	10.9	29.8	43.3	1.4	0.3	41.5	45.1
	2015	1151	38.8	16.6	12.9	29.3	38.8	2.0	0.5	35.4	42.5
Oman	2011	1362	38.5	24.9	13.4	20.2	38.5	2.5	0.5	41.1	35.7
	2015	1261	38.8	24.8	13.7	20.4	38.8	2.1	0.3	40.2	37.4
Qatar	2011	632	33.8	20.9	17.1	24.3	33.8	3.5	0.5	34.6	32.9
	2015	783	33.3	26.4	13.9	23.7	33.3	2.1	0.6	36.2	30.2
Russian Federation	2011	696	44.7	21.5	9.8	18.7	44.7	4.6	0.8	43.5	45.7
	2015	684	52.8	20.9	6.3	15.8	52.8	3.7	0.6	51.2	54.3
Saudi Arabia	2011	621	28.4	30.4	18.2	22.0	28.4	0.9	0.0	29.3	27.6
	2015	536	31.0	28.3	18.9	20.5	31.0	1.2	0.2	31.1	30.8
Singapore	2011	848	67.3	11.4	6.5	13.7	67.3	0.9	0.2	64.5	70.1
	2015	873	70.7	9.6	5.3	13.2	70.7	1.1	0.0	69.6	71.7
Slovenia	2011	632	37.3	28.7	11.6	17.4	37.3	4.4	0.6	36.6	38.0
	2015	615	43.2	23.6	10.2	18.4	43.2	4.4	0.2	44.5	42.2
South Africa	2011	1731	25.8	28.8	12.6	27.9	25.8	2.8	2.3	31.5	20.7
	2015	1794	24.2	26.0	14.8	30.7	24.2	2.8	1.5	26.1	22.1
Sweden	2011	803	39.0	17.8	14.3	25.0	39.0	3.9	0.1	33.5	44.3
	2015	581	48.0	13.4	12.4	21.8	48.0	3.4	1.1	41.9	53.2
Thailand	2011	875	31.4	19.4	16.6	29.8	31.4	2.4	0.4	31.2	31.7
	2015	931	30.9	21.8	17.6	28.2	30.9	1.1	0.3	29.6	32.5
Turkey	2011	994	51.3	11.5	13.8	21.0	51.3	2.0	0.4	50.1	52.5
	2015	875	53.2	12.0	11.7	21.6	53.2	0.8	0.7	50.5	55.6
United Arab Emirates	2011	2001	40.1	23.0	12.5	21.9	40.1	1.6	0.9	41.4	38.8
	2015	2562	38.4	20.5	13.9	24.9	38.4	2.1	0.1	38.0	38.7
United States	2011	1488	50.2	14.4	11.8	21.1	50.2	1.8	0.7	48.6	51.8
	2015	1452	46.2	12.0	14.6	24.7	46.2	1.3	1.2	45.6	46.9

International Avg (n=33)	2011	28557	42.0	21.0	11.4	22.4	42.0	2.4	0.7	41.9	42.2
	2015	31238	43.3	21.5	10.5	21.6	43.3	2.4	0.6	43.6	43.0

Ontario, Canada	2011	683	47.4	15.4	12.8	22.2	47.4	1.2	0.9	47.6	47.3
	2015	637	44.8	13.6	12.3	27.0	44.8	0.7	1.7	47.9	41.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_06 (S052256): Chemistry / Applying Type: MC Key: D
Label: Cause distilled water taste

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	49.3	11.1	23.1	13.5	49.3	2.4	0.7	47.7	50.9
	2015	554	47.7	9.3	23.2	17.1	47.7	0.8	1.9	46.2	49.5
Norway (8)	2011	548	41.2	17.9	11.9	25.4	41.2	3.3	0.3	41.5	40.9
	2015	680	38.4	14.8	12.1	31.4	38.4	3.2	0.1	35.6	41.7
Abu Dhabi, UAE	2011	611	41.7	20.5	13.3	21.4	41.7	1.8	1.4	42.6	40.9
	2015	685	36.2	19.7	13.6	27.5	36.2	2.7	0.2	36.5	36.0
Dubai, UAE	2011	791	42.3	22.9	10.0	21.1	42.3	2.8	0.9	41.1	43.2
	2015	880	42.7	19.2	12.2	24.0	42.7	1.7	0.1	38.8	46.9
Florida, US	2011	247	45.9	14.6	14.3	23.1	45.9	2.1	0.0	44.9	46.7
	2015	295	46.9	17.0	10.3	22.7	46.9	1.7	1.5	51.8	43.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_07Z (S052043Z): Chemistry / Applying Type: CR 1 Point
Label: Neutralizing wasp venom (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	24.5	73.9	0.9	0.7	24.5	17.3	31.2
	2015	1468	28.9	69.4	1.5	0.3	28.9	26.4	31.5
Bahrain	2011	662	27.1	67.0	5.1	0.9	27.1	29.4	24.9
	2015	706	31.2	66.4	1.8	0.7	31.2	33.5	29.0
Botswana	2011	767	13.9	81.7	4.0	0.4	13.9	15.1	12.7
	2015	859	13.3	82.8	1.9	2.0	13.3	15.4	10.8
Chile	2011	837	15.6	80.3	2.7	1.5	15.6	15.1	16.0
	2015	694	18.1	77.7	3.1	1.1	18.1	15.7	20.2
Chinese Taipei	2011	724	53.3	46.3	0.4	0.0	53.3	55.8	51.1
	2015	823	51.7	47.9	0.4	0.0	51.7	57.0	46.7
England	2011	530	40.5	57.6	1.6	0.3	40.5	41.8	39.3
	2015	681	38.1	60.0	1.4	0.5	38.1	40.5	35.8
Georgia	2011	652	11.9	75.9	10.7	1.4	11.9	12.3	11.7
	2015	574	22.0	74.8	2.6	0.6	22.0	23.1	21.1
Hong Kong SAR	2011	577	46.2	52.0	1.0	0.8	46.2	48.3	44.3
	2015	601	50.2	49.4	0.3	0.0	50.2	50.4	50.1
Hungary	2011	734	37.9	61.2	0.8	0.1	37.9	35.2	40.6
	2015	703	38.6	60.6	0.8	0.0	38.6	37.7	39.5
Iran, Islamic Rep. of	2011	873	33.0	64.8	1.8	0.4	33.0	29.1	36.4
	2015	891	31.9	65.8	1.3	1.1	31.9	28.6	34.8
Israel	2011	668	38.6	58.2	2.7	0.6	38.6	37.5	39.7
	2015	790	39.1	56.8	3.0	1.0	39.1	39.6	38.7
Italy	2011	577	35.0	61.4	2.5	1.1	35.0	31.1	38.7
	2015	640	32.9	65.3	1.7	0.1	32.9	33.9	31.8
Japan	2011	633	50.2	48.4	1.2	0.2	50.2	44.6	55.2
	2015	682	48.1	51.3	0.3	0.3	48.1	45.9	50.2
Jordan	2011	1112	19.0	75.6	5.1	0.3	19.0	21.3	16.9
	2015	1126	17.0	81.5	1.4	0.1	17.0	16.9	17.1
Kazakhstan	2011	631	13.5	80.9	4.3	1.3	13.5	12.6	14.5
	2015	702	32.3	65.4	2.1	0.1	32.3	33.9	30.8
Korea, Rep. of	2011	742	52.6	47.0	0.3	0.1	52.6	53.2	52.0
	2015	763	48.2	51.5	0.3	0.0	48.2	44.4	51.4
Lebanon	2011	569	19.0	71.8	6.5	2.8	19.0	19.3	18.7
	2015	530	24.3	68.1	6.0	1.6	24.3	22.0	26.8
Lithuania	2011	681	24.1	74.0	0.9	1.0	24.1	26.2	21.9
	2015	633	26.2	72.3	1.5	0.0	26.2	23.8	28.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_07Z (S052043Z): Chemistry / Applying Type: CR 1 Point
Label: Neutralizing wasp venom (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	811	21.7	73.9	2.1	2.3	21.7	22.2	21.2
	2015	1401	33.0	64.4	0.8	1.8	33.0	32.9	33.1
Morocco	2011	1282	5.5	86.8	6.6	1.1	5.5	4.7	6.2
	2015	1870	7.3	89.6	2.2	1.0	7.3	6.1	8.2
New Zealand	2011	755	26.3	72.2	1.1	0.3	26.3	20.8	31.7
	2015	1151	25.4	72.8	1.1	0.6	25.4	22.2	29.0
Oman	2011	1362	18.7	75.7	5.1	0.5	18.7	21.4	15.8
	2015	1260	26.7	71.0	1.8	0.5	26.7	28.1	25.4
Qatar	2011	632	18.7	75.2	5.6	0.5	18.7	22.0	15.3
	2015	783	22.5	73.3	3.6	0.6	22.5	24.7	20.2
Russian Federation	2011	696	25.6	70.3	3.1	1.0	25.6	24.0	26.9
	2015	683	33.5	63.2	2.7	0.6	33.5	30.9	36.0
Saudi Arabia	2011	618	19.8	78.1	2.1	0.0	19.8	18.4	21.1
	2015	534	18.3	80.2	1.3	0.2	18.3	23.2	13.1
Singapore	2011	848	36.5	62.5	0.7	0.3	36.5	37.9	35.0
	2015	873	38.1	61.5	0.4	0.0	38.1	36.7	39.4
Slovenia	2011	632	25.8	70.6	3.0	0.6	25.8	21.4	30.0
	2015	615	30.0	68.6	1.3	0.2	30.0	25.0	33.9
South Africa	2011	1731	10.7	82.8	4.0	2.5	10.7	11.9	9.7
	2015	1794	9.8	85.1	3.4	1.7	9.8	10.4	9.1
Sweden	2011	803	21.4	76.1	2.3	0.2	21.4	23.7	19.3
	2015	581	23.0	75.4	0.5	1.1	23.0	29.8	17.6
Thailand	2011	875	46.2	48.7	4.6	0.5	46.2	50.3	40.7
	2015	929	48.9	49.3	1.3	0.5	48.9	52.3	45.0
Turkey	2011	994	34.3	63.1	2.1	0.4	34.3	36.6	32.3
	2015	875	39.0	59.9	0.5	0.7	39.0	41.7	36.5
United Arab Emirates	2011	2001	28.2	68.9	2.0	0.9	28.2	29.6	26.8
	2015	2562	28.4	70.2	1.3	0.1	28.4	28.9	27.8
United States	2011	1488	27.5	70.7	1.1	0.7	27.5	28.0	26.9
	2015	1452	27.0	70.5	1.4	1.2	27.0	25.3	28.7
International Avg (n=33)	2011	28567	28.0	68.3	3.0	0.8	28.0	27.8	28.0
	2015	31229	30.4	67.3	1.7	0.6	30.4	30.5	30.2
Ontario, Canada	2011	683	27.1	70.1	2.0	0.9	27.1	24.1	30.1
	2015	637	29.1	67.6	1.5	1.8	29.1	24.4	34.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_07Z (S052043Z): Chemistry / Applying Type: CR 1 Point
Label: Neutralizing wasp venom (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	39.9	57.8	1.5	0.8	39.9	35.3	44.7
	2015	558	44.6	53.4	0.1	1.8	44.6	42.0	47.6
Norway (8)	2011	548	30.5	67.9	1.3	0.3	30.5	25.1	36.3
	2015	680	28.0	70.2	1.7	0.1	28.0	29.3	26.5
Abu Dhabi, UAE	2011	611	28.3	68.7	1.5	1.5	28.3	30.8	26.1
	2015	685	28.3	69.9	1.6	0.2	28.3	31.9	24.9
Dubai, UAE	2011	791	27.3	68.8	2.9	1.0	27.3	25.2	29.0
	2015	880	32.5	66.6	0.8	0.1	32.5	30.8	34.3
Florida, US	2011	247	26.5	71.5	2.0	0.0	26.5	25.8	27.3
	2015	295	27.4	70.7	0.5	1.5	27.4	29.3	25.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_08 (S052194): Physics / Reasoning Type: MC Key: C
Label: Particles in Samples X and Y

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	53.5	6.8	27.9	53.5	9.0	2.0	0.8	54.8	52.4
	2015	1468	51.5	6.7	29.6	51.5	8.7	3.1	0.4	50.6	52.5
Bahrain	2011	662	36.7	8.5	37.5	36.7	13.7	2.7	0.9	42.1	31.7
	2015	706	42.1	14.1	30.2	42.1	11.1	1.5	0.9	44.1	40.4
Botswana	2011	767	34.3	13.3	32.3	34.3	18.6	0.6	0.9	34.1	34.5
	2015	859	28.7	17.1	29.4	28.7	19.6	2.9	2.3	31.6	25.3
Chile	2011	837	40.9	8.7	33.4	40.9	13.5	2.0	1.5	42.6	39.2
	2015	694	33.7	9.1	43.4	33.7	9.9	2.5	1.5	36.3	31.5
Chinese Taipei	2011	724	56.7	5.0	26.6	56.7	11.5	0.2	0.0	57.1	56.3
	2015	823	59.8	6.2	21.3	59.8	12.5	0.2	0.0	58.1	61.4
England	2011	530	54.3	4.7	27.5	54.3	9.0	4.0	0.5	57.6	51.3
	2015	681	52.7	5.0	26.2	52.7	12.9	2.6	0.5	57.1	48.6
Georgia	2011	652	39.7	7.7	32.7	39.7	13.3	4.4	2.3	40.4	39.1
	2015	574	43.9	12.4	27.1	43.9	12.2	3.7	0.8	48.6	40.0
Hong Kong SAR	2011	576	48.9	5.8	26.7	48.9	17.2	0.4	1.0	56.5	41.7
	2015	601	46.8	4.9	30.3	46.8	17.1	0.8	0.0	45.7	47.8
Hungary	2011	734	43.4	4.6	27.9	43.4	9.7	14.3	0.1	41.7	45.1
	2015	703	49.3	5.4	27.1	49.3	9.1	9.2	0.0	52.6	45.9
Iran, Islamic Rep. of	2011	873	44.7	8.5	32.6	44.7	12.2	1.6	0.4	44.6	44.8
	2015	891	44.7	10.7	32.4	44.7	7.9	2.6	1.6	46.8	42.9
Israel	2011	668	67.8	3.7	16.9	67.8	10.2	0.6	0.8	69.5	66.0
	2015	790	60.7	4.3	21.8	60.7	9.3	2.7	1.2	64.5	56.9
Italy	2011	573	50.2	4.5	30.0	50.2	9.7	4.4	1.2	52.0	48.6
	2015	640	50.1	5.5	29.5	50.1	10.7	3.8	0.3	50.5	49.7
Japan	2011	633	49.3	4.6	27.8	49.3	15.0	3.1	0.2	49.0	49.6
	2015	682	49.6	5.3	27.2	49.6	15.8	1.9	0.3	46.6	52.2
Jordan	2011	1112	35.0	9.3	40.2	35.0	13.4	1.8	0.3	35.9	34.3
	2015	1126	36.2	16.3	36.8	36.2	8.6	1.9	0.3	35.5	36.7
Kazakhstan	2011	631	41.9	15.0	22.9	41.9	16.2	2.6	1.3	40.3	43.6
	2015	702	46.1	13.3	24.5	46.1	12.4	3.4	0.2	42.9	49.3
Korea, Rep. of	2011	742	56.8	4.8	24.3	56.8	13.7	0.4	0.1	59.1	54.3
	2015	763	44.5	4.0	37.1	44.5	13.6	0.8	0.0	43.4	45.4
Lebanon	2011	535	30.7	11.0	36.5	30.7	14.4	4.1	3.3	29.1	32.8
	2015	515	30.9	15.1	27.2	30.9	14.6	10.3	1.9	29.0	33.0
Lithuania	2011	681	45.2	5.8	39.5	45.2	6.7	1.8	1.0	49.5	40.8
	2015	633	54.4	7.3	28.1	54.4	7.5	2.6	0.0	57.6	51.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_08 (S052194): Physics / Reasoning Type: MC Key: C
Label: Particles in Samples X and Y

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	29.5	11.1	29.5	29.5	26.4	1.1	2.4	30.2	28.8
	2015	1401	34.2	7.6	22.0	34.2	32.4	1.5	2.3	31.7	36.7
Morocco	2011	1236	33.2	20.0	31.6	33.2	9.8	3.7	1.7	31.9	34.3
	2015	1870	27.2	12.8	45.1	27.2	9.1	4.7	1.3	29.3	25.5
New Zealand	2011	755	51.8	5.1	30.2	51.8	10.7	1.9	0.3	49.9	53.6
	2015	1151	49.7	5.1	29.3	49.7	12.7	2.5	0.6	49.8	49.6
Oman	2011	1362	35.6	15.4	35.9	35.6	10.4	2.1	0.5	37.9	33.2
	2015	1262	31.5	14.0	40.0	31.5	10.9	2.9	0.7	31.6	31.4
Qatar	2011	632	32.8	10.7	40.5	32.8	13.3	2.2	0.5	36.9	28.5
	2015	783	34.4	13.6	34.5	34.4	13.3	3.2	1.0	34.4	34.4
Russian Federation	2011	696	68.3	4.5	16.9	68.3	6.3	2.8	1.2	68.4	68.3
	2015	683	66.3	3.7	19.9	66.3	6.7	3.0	0.6	65.7	66.8
Saudi Arabia	2011	621	32.8	11.9	43.4	32.8	11.0	0.8	0.0	31.7	33.9
	2015	536	24.4	16.4	42.1	24.4	15.3	1.3	0.5	26.7	21.9
Singapore	2011	848	65.6	6.4	18.6	65.6	8.1	1.0	0.3	66.4	64.9
	2015	873	61.8	5.6	19.6	61.8	12.3	0.6	0.0	60.7	62.7
Slovenia	2011	632	47.0	4.5	31.2	47.0	8.8	7.7	0.8	48.4	45.6
	2015	615	49.0	6.2	32.9	49.0	5.8	5.9	0.2	52.9	46.0
South Africa	2011	1731	20.4	14.6	43.7	20.4	11.8	6.4	3.1	19.2	21.5
	2015	1794	24.2	17.1	42.9	24.2	11.2	2.4	2.2	24.0	24.4
Sweden	2011	803	45.2	6.4	29.2	45.2	10.2	8.8	0.3	47.0	43.7
	2015	580	53.7	6.5	24.6	53.7	9.1	4.6	1.5	60.2	48.6
Thailand	2011	875	24.2	16.2	45.0	24.2	10.3	3.5	0.7	23.5	25.2
	2015	931	20.1	20.2	45.0	20.1	11.5	2.6	0.6	18.8	21.5
Turkey	2011	994	41.6	9.0	33.5	41.6	13.9	1.6	0.5	43.9	39.6
	2015	875	41.1	11.3	29.6	41.1	16.2	1.0	0.7	44.3	38.2
United Arab Emirates	2011	2002	38.3	10.5	37.1	38.3	11.8	1.3	1.0	40.8	35.7
	2015	2561	38.8	11.2	36.5	38.8	11.5	1.8	0.2	39.8	37.8
United States	2011	1488	46.8	5.8	35.2	46.8	10.0	1.4	0.7	47.0	46.6
	2015	1452	48.4	6.2	32.7	48.4	10.3	1.2	1.2	50.0	46.8

International Avg (n=33)	2011	28487	43.7	8.6	31.7	43.7	12.1	3.0	0.9	44.8	42.7
	2015	31218	43.3	9.7	31.1	43.3	12.2	2.9	0.8	44.3	42.5

Ontario, Canada	2011	683	62.5	4.2	21.1	62.5	9.0	2.2	0.9	67.4	57.6
	2015	635	62.9	5.7	19.6	62.9	8.7	0.8	2.2	64.1	62.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_08 (S052194): Physics / Reasoning Type: MC Key: C
Label: Particles in Samples X and Y

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	52.0	5.9	28.4	52.0	6.7	6.3	0.8	56.3	47.5
	2015	544	59.5	5.0	26.5	59.5	6.7	0.4	1.9	60.1	58.9
Norway (8)	2011	548	48.7	7.2	28.9	48.7	8.6	5.7	0.8	50.0	47.4
	2015	680	42.5	9.9	29.4	42.5	9.2	8.8	0.2	47.3	37.0
Abu Dhabi, UAE	2011	611	37.7	10.3	38.5	37.7	10.8	1.2	1.5	39.8	35.8
	2015	685	34.3	11.0	40.3	34.3	11.9	2.4	0.2	38.0	30.8
Dubai, UAE	2011	792	46.1	8.9	32.6	46.1	9.5	1.9	1.0	47.2	45.1
	2015	879	49.0	6.9	30.7	49.0	12.4	1.0	0.1	45.1	53.1
Florida, US	2011	247	52.5	6.4	27.3	52.5	13.2	0.6	0.0	52.9	52.2
	2015	295	46.4	9.0	27.8	46.4	12.2	2.8	1.8	48.6	44.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_09 (S052179): Physics / Applying Type: MC Key: B
Label: Temperature of three containers

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	40.1	8.8	40.1	17.2	31.9	1.2	0.8	37.2	42.8
	2015	1468	43.1	7.0	43.1	17.2	30.6	1.6	0.5	42.4	44.0
Bahrain	2011	662	31.9	10.6	31.9	16.8	36.8	3.0	0.9	31.1	32.5
	2015	705	27.7	10.5	27.7	17.8	41.3	1.6	1.2	28.5	27.0
Botswana	2011	767	18.3	7.6	18.3	15.4	56.5	1.2	1.1	16.0	20.6
	2015	858	17.1	8.7	17.1	13.1	54.0	3.5	3.6	17.4	16.6
Chile	2011	837	33.8	6.2	33.8	20.0	36.2	2.1	1.7	33.7	33.9
	2015	694	35.3	8.1	35.3	19.0	34.1	1.4	2.1	33.5	36.8
Chinese Taipei	2011	724	66.1	5.7	66.1	10.6	17.6	0.0	0.0	64.8	67.3
	2015	823	69.2	4.8	69.2	9.6	16.4	0.2	0.0	69.1	69.3
England	2011	530	41.1	9.4	41.1	13.6	31.4	2.5	1.8	38.8	43.3
	2015	681	43.6	8.7	43.6	16.0	30.6	0.6	0.5	44.0	43.2
Georgia	2011	652	30.5	11.7	30.5	21.4	29.2	4.9	2.3	29.7	31.2
	2015	574	31.9	8.9	31.9	20.3	33.7	4.3	0.9	30.1	33.3
Hong Kong SAR	2011	577	51.6	5.8	51.6	19.3	21.7	0.6	1.0	48.5	54.6
	2015	601	57.8	4.4	57.8	15.7	21.6	0.4	0.0	57.7	58.0
Hungary	2011	734	45.6	4.5	45.6	13.0	29.9	6.9	0.1	45.6	45.6
	2015	703	48.4	5.3	48.4	15.5	26.2	4.6	0.0	45.8	51.1
Iran, Islamic Rep. of	2011	873	24.2	9.6	24.2	19.7	44.9	1.1	0.6	21.7	26.3
	2015	891	26.8	8.6	26.8	20.8	39.1	2.7	1.9	26.2	27.4
Israel	2011	668	44.4	7.4	44.4	17.2	29.1	1.0	0.9	42.2	46.8
	2015	790	37.9	6.1	37.9	18.1	32.9	3.2	1.7	37.6	38.3
Italy	2011	577	42.2	5.3	42.2	18.7	30.5	2.1	1.1	37.7	46.5
	2015	640	40.7	5.4	40.7	17.9	32.6	3.3	0.3	38.1	43.4
Japan	2011	633	66.3	2.9	66.3	11.8	16.9	1.7	0.3	67.5	65.2
	2015	682	68.2	3.7	68.2	10.9	16.0	1.0	0.3	68.8	67.6
Jordan	2011	1112	19.0	12.2	19.0	22.3	44.1	2.1	0.3	13.2	24.3
	2015	1126	20.4	15.1	20.4	21.0	40.8	2.2	0.5	19.2	21.4
Kazakhstan	2011	631	41.2	8.8	41.2	13.4	33.6	1.6	1.4	41.8	40.5
	2015	702	51.5	7.1	51.5	10.8	27.6	2.7	0.3	47.6	55.4
Korea, Rep. of	2011	742	71.0	1.9	71.0	13.6	13.1	0.2	0.1	73.9	67.8
	2015	763	70.8	3.1	70.8	13.7	12.2	0.2	0.0	71.5	70.3
Lebanon	2011	558	31.0	11.8	31.0	18.2	32.4	2.5	4.1	27.9	35.1
	2015	533	26.0	11.5	26.0	17.4	33.0	8.7	3.5	25.2	26.8
Lithuania	2011	681	54.9	5.6	54.9	12.8	24.5	1.3	1.0	54.4	55.4
	2015	633	50.7	6.8	50.7	15.1	25.9	1.5	0.0	50.6	50.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_09 (S052179): Physics / Applying Type: MC Key: B
Label: Temperature of three containers

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	28.5	9.4	28.5	23.7	35.2	0.7	2.5	27.8	29.2
	2015	1401	34.8	11.8	34.8	17.7	31.0	1.7	3.1	32.5	37.0
Morocco	2011	1263	24.5	17.5	24.5	20.8	31.7	3.4	2.1	23.4	25.4
	2015	1869	25.7	15.3	25.7	21.4	31.6	4.1	1.8	22.0	28.7
New Zealand	2011	755	38.5	10.0	38.5	16.2	32.9	2.0	0.3	33.2	43.8
	2015	1151	41.3	7.4	41.3	19.0	29.4	2.1	0.8	37.7	45.3
Oman	2011	1362	27.8	10.4	27.8	19.9	39.4	1.9	0.5	26.4	29.4
	2015	1262	26.6	9.4	26.6	22.0	39.2	1.8	1.0	28.9	24.4
Qatar	2011	632	30.0	10.8	30.0	20.2	35.9	2.4	0.6	30.1	29.9
	2015	783	30.1	8.7	30.1	21.3	36.0	2.8	1.2	29.7	30.5
Russian Federation	2011	696	55.5	4.5	55.5	13.2	21.4	3.8	1.6	54.2	56.7
	2015	683	54.9	4.9	54.9	12.3	23.4	3.6	0.9	51.2	58.4
Saudi Arabia	2011	621	23.1	13.3	23.1	19.2	43.8	0.6	0.0	20.3	25.8
	2015	536	22.3	13.5	22.3	21.3	41.9	0.5	0.6	21.7	22.9
Singapore	2011	848	54.6	4.1	54.6	12.0	28.1	0.8	0.3	53.7	55.6
	2015	873	58.9	2.4	58.9	13.2	25.0	0.4	0.0	61.1	57.0
Slovenia	2011	632	59.7	4.9	59.7	13.1	18.9	2.6	0.8	59.0	60.3
	2015	615	56.3	4.1	56.3	16.2	21.1	2.1	0.2	55.3	57.0
South Africa	2011	1731	22.3	21.0	22.3	14.2	35.8	3.3	3.4	19.5	24.5
	2015	1794	23.8	17.3	23.8	16.4	38.1	1.9	2.5	22.5	25.1
Sweden	2011	803	48.2	3.6	48.2	12.1	30.1	5.4	0.5	48.1	48.5
	2015	580	49.3	5.5	49.3	12.6	25.7	4.9	2.1	48.3	50.4
Thailand	2011	875	39.2	10.4	39.2	18.7	27.9	2.7	1.1	40.1	37.9
	2015	931	38.8	12.4	38.8	20.5	25.3	2.1	1.0	39.5	37.9
Turkey	2011	994	35.5	9.6	35.5	32.5	21.1	0.8	0.6	37.0	34.2
	2015	875	37.1	7.3	37.1	32.1	22.3	0.6	0.7	37.4	36.8
United Arab Emirates	2011	2002	29.9	10.7	29.9	16.7	40.4	1.2	1.2	29.7	30.1
	2015	2562	31.5	9.1	31.5	15.7	41.8	1.7	0.2	31.0	32.0
United States	2011	1488	43.2	8.6	43.2	19.7	25.9	1.9	0.8	42.4	43.9
	2015	1452	44.9	7.7	44.9	20.0	25.1	1.0	1.3	43.1	46.7

International Avg (n=33)	2011	28543	39.8	8.6	39.8	17.2	31.2	2.1	1.1	38.5	41.1
	2015	31234	40.7	8.2	40.7	17.3	30.5	2.3	1.1	39.8	41.5

Ontario, Canada	2011	683	41.9	5.5	41.9	18.1	31.8	1.4	1.2	41.6	42.2
	2015	637	38.5	5.4	38.5	18.8	34.2	0.7	2.5	31.4	46.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_09 (S052179): Physics / Applying Type: MC Key: B
Label: Temperature of three containers

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	37.5	6.0	37.5	17.5	35.9	2.1	0.9	38.1	37.0
	2015	554	42.9	5.2	42.9	18.3	31.3	0.4	1.9	42.1	43.8
Norway (8)	2011	548	48.8	3.7	48.8	15.1	29.4	2.2	0.8	46.7	51.0
	2015	680	48.9	4.5	48.9	13.6	28.1	4.7	0.2	47.4	50.6
Abu Dhabi, UAE	2011	611	27.5	9.9	27.5	17.5	42.4	0.9	1.8	24.1	30.6
	2015	685	29.1	9.5	29.1	18.0	41.6	1.5	0.2	30.0	28.3
Dubai, UAE	2011	792	36.8	7.4	36.8	13.6	39.2	1.9	1.0	34.7	38.6
	2015	880	39.2	6.0	39.2	15.2	38.9	0.6	0.2	40.0	38.3
Florida, US	2011	247	41.3	11.6	41.3	18.4	27.8	0.8	0.0	37.6	44.8
	2015	295	36.5	9.8	36.5	25.9	22.8	1.7	3.3	36.9	36.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_10 (S052233): Physics / Reasoning Type: CR 1 Point
Label: Object X floating in Liquids A,B,C

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	15.0	80.4	3.8	0.9	15.0	13.8	16.1
	2015	1468	14.5	77.8	7.2	0.5	14.5	12.6	16.7
Bahrain	2011	662	17.7	79.1	2.4	0.9	17.7	22.5	13.1
	2015	705	16.1	77.5	4.9	1.5	16.1	18.4	14.1
Botswana	2011	767	6.2	89.1	3.1	1.6	6.2	6.9	5.6
	2015	858	7.8	83.9	3.6	4.7	7.8	9.1	6.3
Chile	2011	836	8.5	82.2	7.5	1.8	8.5	9.4	7.6
	2015	694	7.9	77.8	11.9	2.4	7.9	7.7	8.1
Chinese Taipei	2011	724	33.2	66.1	0.7	0.0	33.2	33.4	33.0
	2015	823	26.3	72.4	1.1	0.2	26.3	24.2	28.2
England	2011	530	15.7	75.6	6.7	2.1	15.7	17.1	14.3
	2015	681	16.7	73.2	9.4	0.6	16.7	15.3	18.1
Georgia	2011	652	10.5	77.1	10.1	2.3	10.5	9.3	11.4
	2015	574	7.5	83.3	8.2	1.0	7.5	7.0	7.9
Hong Kong SAR	2011	577	21.9	74.4	2.7	1.0	21.9	22.6	21.3
	2015	601	24.7	72.5	2.8	0.0	24.7	27.4	22.1
Hungary	2011	734	24.1	73.4	2.3	0.2	24.1	23.3	24.9
	2015	703	27.0	70.3	2.7	0.0	27.0	25.5	28.5
Iran, Islamic Rep. of	2011	873	14.4	81.6	3.4	0.7	14.4	15.1	13.7
	2015	891	12.0	77.7	7.9	2.4	12.0	13.1	11.1
Israel	2011	668	27.7	66.8	4.1	1.4	27.7	26.1	29.4
	2015	790	24.2	67.4	6.1	2.3	24.2	24.2	24.3
Italy	2011	577	17.6	74.8	6.4	1.1	17.6	14.0	21.2
	2015	640	14.3	74.2	10.5	1.0	14.3	16.7	11.7
Japan	2011	633	19.2	79.7	0.7	0.3	19.2	16.3	21.9
	2015	682	25.9	70.9	3.0	0.3	25.9	26.5	25.3
Jordan	2011	1112	18.4	79.3	2.0	0.3	18.4	21.4	15.6
	2015	1126	15.0	81.5	2.4	1.0	15.0	15.7	14.4
Kazakhstan	2011	631	26.7	58.2	13.5	1.6	26.7	28.8	24.6
	2015	702	48.0	48.7	3.0	0.3	48.0	52.9	43.1
Korea, Rep. of	2011	742	31.6	67.2	1.1	0.1	31.6	33.1	30.0
	2015	763	23.5	74.0	2.5	0.0	23.5	19.6	26.8
Lebanon	2011	569	5.7	82.0	8.1	4.2	5.7	5.0	6.6
	2015	553	10.2	68.9	17.3	3.7	10.2	10.0	10.3
Lithuania	2011	681	17.7	78.3	3.0	1.0	17.7	18.7	16.8
	2015	633	17.7	78.9	3.4	0.0	17.7	17.6	17.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_10 (S052233): Physics / Reasoning Type: CR 1 Point
Label: Object X floating in Liquids A,B,C

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	11.9	82.1	3.3	2.7	11.9	14.8	8.8
	2015	1401	13.6	76.2	6.6	3.6	13.6	12.8	14.4
Morocco	2011	1308	5.5	84.1	8.0	2.5	5.5	5.5	5.5
	2015	1868	6.9	82.8	8.3	2.0	6.9	8.2	5.9
New Zealand	2011	755	13.8	81.9	3.9	0.3	13.8	14.2	13.4
	2015	1151	13.0	80.5	5.6	0.8	13.0	12.5	13.6
Oman	2011	1362	21.6	75.1	2.4	0.8	21.6	26.5	16.5
	2015	1261	25.9	70.7	2.3	1.1	25.9	28.7	23.3
Qatar	2011	632	11.6	85.8	1.9	0.7	11.6	14.6	8.4
	2015	783	11.5	82.3	4.8	1.4	11.5	11.9	11.1
Russian Federation	2011	696	28.8	64.9	4.1	2.2	28.8	23.9	32.9
	2015	683	29.5	63.6	6.0	0.9	29.5	33.4	25.8
Saudi Arabia	2011	621	2.5	96.5	1.0	0.0	2.5	2.6	2.4
	2015	536	14.0	82.0	3.5	0.6	14.0	17.1	10.6
Singapore	2011	848	33.5	65.5	0.5	0.6	33.5	35.6	31.3
	2015	873	27.5	71.1	1.4	0.0	27.5	26.0	28.8
Slovenia	2011	632	33.9	62.8	2.2	1.1	33.9	34.6	33.2
	2015	615	27.2	69.9	2.7	0.2	27.2	27.0	27.4
South Africa	2011	1731	11.5	81.4	3.4	3.7	11.5	11.9	11.2
	2015	1794	8.8	84.7	3.7	2.8	8.8	8.5	9.1
Sweden	2011	803	16.3	76.7	6.5	0.5	16.3	13.9	18.6
	2015	581	15.6	74.4	7.7	2.4	15.6	16.1	15.3
Thailand	2011	875	15.4	71.3	12.1	1.1	15.4	15.8	14.9
	2015	931	13.9	77.2	7.7	1.3	13.9	15.5	11.9
Turkey	2011	994	24.3	70.4	4.7	0.7	24.3	28.0	20.9
	2015	875	29.3	66.6	3.3	0.9	29.3	31.8	27.1
United Arab Emirates	2011	2002	15.1	80.0	3.5	1.4	15.1	18.5	11.7
	2015	2562	17.3	78.1	4.3	0.3	17.3	19.0	15.6
United States	2011	1488	13.9	83.6	1.6	0.8	13.9	12.8	15.1
	2015	1452	15.7	79.8	3.1	1.5	15.7	14.7	16.7
International Avg (n=33)	2011	28598	17.9	76.6	4.3	1.2	17.9	18.5	17.3
	2015	31253	18.5	74.9	5.4	1.3	18.5	19.0	17.9
Ontario, Canada	2011	683	22.5	70.6	5.4	1.5	22.5	21.4	23.7
	2015	637	21.3	68.9	7.2	2.6	21.3	21.0	21.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_10 (S052233): Physics / Reasoning Type: CR 1 Point
Label: Object X floating in Liquids A,B,C

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	866	16.0	76.4	6.6	1.0	16.0	17.0	15.0
	2015	559	18.6	72.0	7.6	1.8	18.6	16.2	21.3
Norway (8)	2011	548	18.5	76.0	4.5	1.1	18.5	18.1	18.8
	2015	680	14.1	76.1	9.6	0.2	14.1	12.3	16.2
Abu Dhabi, UAE	2011	611	13.1	82.4	2.7	1.8	13.1	15.4	11.1
	2015	685	18.7	77.1	3.9	0.3	18.7	22.8	14.9
Dubai, UAE	2011	792	16.1	77.7	4.6	1.5	16.1	17.8	14.7
	2015	880	21.7	73.5	4.7	0.2	21.7	20.3	23.1
Florida, US	2011	247	11.8	85.9	2.2	0.0	11.8	6.3	16.9
	2015	295	14.3	78.0	3.8	3.9	14.3	11.0	17.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_l1 (\$052159): Physics / Knowing Type: MC Key: D
Label: Moving log with bar and stone

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	68.9	15.0	10.0	4.8	68.9	0.4	0.9	65.2	72.3
	2015	1468	66.0	16.4	7.2	7.6	66.0	2.1	0.8	61.6	70.8
Bahrain	2011	662	60.6	22.1	8.4	6.7	60.6	1.2	0.9	53.5	67.3
	2015	705	49.0	28.9	8.9	10.3	49.0	1.0	1.8	43.8	53.6
Botswana	2011	767	57.0	20.3	11.9	7.7	57.0	1.0	2.1	46.6	68.0
	2015	859	52.7	21.3	11.4	6.6	52.7	2.4	5.5	49.4	56.4
Chile	2011	837	69.9	20.2	2.8	4.7	69.9	0.5	2.0	62.7	77.2
	2015	693	61.3	25.1	3.2	6.7	61.3	0.7	3.0	56.1	65.6
Chinese Taipei	2011	724	71.4	17.8	3.8	6.6	71.4	0.4	0.0	63.9	78.4
	2015	823	74.2	15.1	3.5	7.0	74.2	0.0	0.2	68.0	79.9
England	2011	530	68.5	15.8	6.8	5.6	68.5	1.3	2.1	63.7	72.9
	2015	681	64.8	15.5	10.3	7.8	64.8	0.6	1.0	63.6	66.0
Georgia	2011	651	70.9	11.1	7.4	6.2	70.9	1.9	2.7	66.2	74.4
	2015	574	67.4	12.3	10.4	7.0	67.4	1.5	1.4	68.0	67.0
Hong Kong SAR	2011	577	60.7	25.1	3.7	9.4	60.7	0.2	1.0	57.4	63.8
	2015	601	61.6	23.7	4.9	9.6	61.6	0.1	0.0	58.0	64.9
Hungary	2011	734	78.7	12.4	4.5	3.4	78.7	0.8	0.2	74.8	82.6
	2015	703	76.8	14.4	3.5	5.0	76.8	0.4	0.0	67.6	86.2
Iran, Islamic Rep. of	2011	873	65.2	17.4	9.4	5.9	65.2	1.1	1.0	52.7	76.0
	2015	891	58.5	22.4	9.5	5.1	58.5	2.0	2.6	55.2	61.4
Israel	2011	668	60.9	16.4	12.7	7.3	60.9	1.0	1.6	54.0	68.4
	2015	790	58.8	17.2	11.7	7.4	58.8	2.3	2.6	53.9	63.7
Italy	2011	577	71.9	16.5	3.9	6.2	71.9	0.3	1.1	66.2	77.5
	2015	640	65.6	19.7	5.9	6.4	65.6	1.4	1.0	61.9	69.5
Japan	2011	633	78.4	13.5	1.9	5.6	78.4	0.1	0.5	73.9	82.5
	2015	682	75.3	16.3	3.3	4.5	75.3	0.1	0.5	71.8	78.5
Jordan	2011	1112	54.5	25.6	10.9	7.3	54.5	1.3	0.5	47.1	61.0
	2015	1126	56.3	21.5	9.7	10.0	56.3	1.4	1.1	48.3	63.6
Kazakhstan	2011	631	72.9	14.8	5.5	4.2	72.9	0.9	1.6	66.2	79.7
	2015	702	87.6	6.4	2.2	2.2	87.6	1.2	0.4	85.6	89.5
Korea, Rep. of	2011	742	69.4	20.2	3.7	6.6	69.4	0.0	0.1	67.4	71.5
	2015	763	75.5	12.1	6.1	6.1	75.5	0.2	0.0	70.3	79.7
Lebanon	2011	566	56.2	20.5	10.4	4.7	56.2	3.5	4.7	48.9	65.5
	2015	537	48.2	19.2	11.5	10.7	48.2	6.4	3.9	41.9	55.1
Lithuania	2011	681	78.6	12.3	3.6	3.7	78.6	0.8	1.0	75.5	81.9
	2015	633	77.1	11.3	3.2	7.3	77.1	1.1	0.0	67.1	86.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_l1 (S052159): Physics / Knowing Type: MC Key: D
Label: Moving log with bar and stone

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	63.9	20.0	7.2	5.6	63.9	0.7	2.7	56.4	71.7
	2015	1401	66.7	16.5	5.1	6.8	66.7	0.6	4.3	58.8	74.5
Morocco	2011	1276	52.5	20.7	11.3	7.8	52.5	4.6	3.2	47.5	56.8
	2015	1869	53.1	22.0	11.9	7.4	53.1	3.3	2.3	45.9	58.8
New Zealand	2011	755	68.2	16.3	6.7	7.0	68.2	1.3	0.4	58.5	77.6
	2015	1151	59.6	21.4	8.3	7.6	59.6	2.0	1.0	55.6	64.0
Oman	2011	1361	51.8	28.4	9.0	8.1	51.8	1.9	0.9	42.6	61.6
	2015	1261	50.3	29.4	6.8	11.2	50.3	1.1	1.2	39.3	60.7
Qatar	2011	632	49.5	26.8	10.3	11.3	49.5	1.2	0.9	48.5	50.5
	2015	783	47.6	25.2	9.4	14.3	47.6	1.9	1.6	44.1	51.3
Russian Federation	2011	696	77.5	12.9	2.7	3.9	77.5	0.6	2.4	70.0	83.8
	2015	683	76.5	14.9	1.9	5.1	76.5	0.7	1.0	68.4	84.2
Saudi Arabia	2011	621	53.0	29.0	8.7	8.7	53.0	0.5	0.1	43.5	61.8
	2015	535	47.1	29.9	9.4	12.2	47.1	0.7	0.8	39.3	55.5
Singapore	2011	848	74.3	14.4	4.0	6.2	74.3	0.6	0.6	67.8	80.9
	2015	873	70.5	15.9	6.7	6.5	70.5	0.5	0.0	66.2	74.3
Slovenia	2011	632	81.0	9.7	3.4	4.6	81.0	0.2	1.1	73.6	88.3
	2015	615	70.8	16.3	6.2	5.8	70.8	0.7	0.2	61.6	78.0
South Africa	2011	1731	50.9	16.1	16.9	8.3	50.9	3.5	4.3	45.9	55.3
	2015	1794	52.9	17.6	15.1	8.2	52.9	2.6	3.6	46.8	59.8
Sweden	2011	803	76.5	13.8	4.5	3.1	76.5	1.5	0.5	74.7	78.2
	2015	581	77.7	11.2	4.5	2.2	77.7	0.8	3.5	72.5	82.4
Thailand	2011	875	67.3	16.0	6.7	7.5	67.3	1.1	1.3	62.1	74.3
	2015	931	65.3	19.7	6.8	6.4	65.3	0.4	1.4	63.9	66.9
Turkey	2011	994	68.2	13.9	11.9	4.7	68.2	0.5	0.8	59.8	75.7
	2015	875	63.9	17.0	12.7	5.1	63.9	0.5	0.9	57.1	70.1
United Arab Emirates	2011	2002	57.8	24.1	8.1	7.5	57.8	1.0	1.5	55.7	59.9
	2015	2562	52.9	27.0	9.0	8.8	52.9	1.8	0.4	51.0	54.9
United States	2011	1488	64.0	21.0	6.9	6.7	64.0	0.5	0.8	58.9	69.0
	2015	1452	60.4	20.9	6.9	8.1	60.4	1.9	1.8	57.6	63.2

International Avg (n=33)	2011	28562	65.8	18.2	7.3	6.3	65.8	1.1	1.4	59.7	71.7
	2015	31237	63.4	18.9	7.5	7.4	63.4	1.3	1.5	58.2	68.4

Ontario, Canada	2011	681	66.8	18.6	5.1	6.6	66.8	1.4	1.5	61.0	72.7
	2015	635	61.8	22.3	4.0	7.8	61.8	1.1	3.0	53.6	70.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_l1 (S052159): Physics / Knowing Type: MC Key: D
Label: Moving log with bar and stone

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	72.8	17.1	4.7	4.0	72.8	0.4	1.0	65.9	79.9
	2015	558	68.8	20.4	1.7	5.0	68.8	0.8	3.2	63.7	74.9
Norway (8)	2011	548	72.4	15.4	4.9	5.3	72.4	1.0	1.1	65.4	80.0
	2015	680	67.6	15.4	6.2	8.0	67.6	2.2	0.6	64.5	71.3
Abu Dhabi, UAE	2011	611	55.8	27.2	6.4	8.0	55.8	0.7	1.8	57.5	54.3
	2015	685	50.2	27.3	9.7	11.4	50.2	1.2	0.3	48.4	51.8
Dubai, UAE	2011	792	56.6	21.1	10.5	8.0	56.6	1.9	2.0	52.5	60.1
	2015	880	55.1	27.6	8.0	7.9	55.1	1.2	0.2	47.7	63.1
Florida, US	2011	247	62.0	21.6	8.6	7.2	62.0	0.6	0.0	55.3	68.2
	2015	295	58.1	19.8	10.3	6.0	58.1	1.1	4.7	50.0	64.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_l2A (S052289A): Earth Science / Applying Type: MC Key: C
Label: Artesian water: Moving up pipe

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	88.5	1.7	3.0	88.5	5.1	0.8	0.9	86.9	90.1
	2015	1468	87.6	2.0	3.4	87.6	4.4	1.3	1.2	85.0	90.4
Bahrain	2011	662	79.7	4.6	2.4	79.7	11.1	1.1	1.0	80.8	78.7
	2015	705	74.8	5.3	4.6	74.8	11.6	1.7	2.0	77.4	72.5
Botswana	2011	767	54.6	7.0	5.7	54.6	29.3	0.7	2.7	49.4	60.0
	2015	859	56.1	6.7	5.5	56.1	22.2	3.0	6.5	57.8	54.3
Chile	2011	837	86.1	1.2	2.9	86.1	6.8	1.2	2.0	84.5	87.7
	2015	693	80.9	3.2	4.5	80.9	7.2	1.2	3.0	79.2	82.4
Chinese Taipei	2011	724	91.5	2.0	2.9	91.5	3.6	0.1	0.0	92.3	90.7
	2015	823	91.1	1.7	1.6	91.1	5.2	0.3	0.2	88.8	93.2
England	2011	530	91.0	1.8	1.4	91.0	3.0	0.5	2.3	92.2	89.8
	2015	681	91.2	1.1	1.6	91.2	4.5	0.6	1.0	93.3	89.2
Georgia	2011	651	76.9	4.4	3.9	76.9	9.9	2.2	2.7	72.5	80.4
	2015	574	84.9	2.7	4.1	84.9	6.1	0.8	1.4	86.1	84.0
Hong Kong SAR	2011	577	75.1	2.4	3.2	75.1	17.4	0.8	1.0	73.6	76.5
	2015	601	78.4	2.1	3.3	78.4	16.2	0.0	0.0	74.3	82.1
Hungary	2011	734	93.1	0.4	1.0	93.1	3.7	1.6	0.2	93.2	92.9
	2015	703	95.1	0.4	1.6	95.1	2.1	0.6	0.1	95.6	94.7
Iran, Islamic Rep. of	2011	873	81.0	1.5	3.7	81.0	11.8	0.7	1.3	78.8	83.0
	2015	891	76.5	4.1	4.9	76.5	10.0	1.6	2.9	73.2	79.5
Israel	2011	668	86.3	2.2	1.5	86.3	7.9	0.4	1.7	85.3	87.3
	2015	790	80.0	2.3	2.5	80.0	9.8	2.7	2.8	81.0	79.0
Italy	2011	577	87.8	1.2	3.9	87.8	5.4	0.6	1.1	86.1	89.4
	2015	640	88.3	0.2	3.4	88.3	4.9	2.0	1.1	85.2	91.6
Japan	2011	633	79.9	2.3	3.2	79.9	13.3	0.6	0.6	80.2	79.7
	2015	682	84.7	1.4	1.2	84.7	12.0	0.0	0.6	83.8	85.6
Jordan	2011	1112	79.4	3.9	2.7	79.4	11.8	1.3	0.8	81.9	77.2
	2015	1126	77.9	4.9	3.1	77.9	12.0	0.9	1.2	77.7	78.1
Kazakhstan	2011	631	79.0	4.3	3.0	79.0	10.6	1.1	1.9	76.1	81.9
	2015	702	91.9	2.7	0.8	91.9	3.6	0.1	0.9	91.4	92.4
Korea, Rep. of	2011	742	84.8	0.9	6.5	84.8	7.7	0.0	0.1	85.8	83.6
	2015	763	84.4	1.4	5.7	84.4	8.4	0.0	0.0	82.2	86.2
Lebanon	2011	555	58.2	9.3	4.3	58.2	19.6	3.3	5.4	54.3	63.1
	2015	540	53.6	13.0	10.4	53.6	15.5	3.6	3.9	48.8	58.8
Lithuania	2011	681	91.8	0.9	1.5	91.8	4.1	0.6	1.1	90.2	93.4
	2015	633	90.8	1.1	3.2	90.8	4.6	0.2	0.1	90.1	91.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_l2A (S052289A): Earth Science / Applying Type: MC Key: C
Label: Artesian water: Moving up pipe

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	56.5	7.5	6.8	56.5	25.0	1.3	3.0	51.9	61.3
	2015	1401	68.9	3.3	2.5	68.9	20.2	0.5	4.6	67.9	69.9
Morocco	2011	1281	61.7	8.6	9.7	61.7	14.3	1.6	4.2	61.8	61.6
	2015	1869	62.9	8.7	9.0	62.9	14.3	2.7	2.5	62.8	63.0
New Zealand	2011	755	82.6	2.4	3.7	82.6	8.2	2.3	0.7	81.4	83.8
	2015	1151	82.3	2.0	3.9	82.3	9.0	1.6	1.2	81.3	83.5
Oman	2011	1362	73.0	7.6	4.2	73.0	12.8	0.9	1.4	74.2	71.7
	2015	1262	78.7	4.9	4.6	78.7	9.5	0.8	1.4	82.7	75.0
Qatar	2011	632	68.0	8.8	6.5	68.0	14.8	1.0	0.9	72.6	63.2
	2015	783	73.2	7.3	5.5	73.2	11.1	1.2	1.6	76.0	70.3
Russian Federation	2011	696	89.7	1.1	0.7	89.7	5.1	0.9	2.6	86.9	92.1
	2015	683	91.4	0.7	0.8	91.4	4.4	1.4	1.3	89.7	93.1
Saudi Arabia	2011	621	77.3	6.7	4.3	77.3	11.0	0.4	0.2	80.9	74.0
	2015	535	64.7	8.7	5.5	64.7	19.3	0.8	0.9	67.3	61.9
Singapore	2011	848	87.3	1.5	2.3	87.3	8.0	0.3	0.6	86.0	88.7
	2015	873	90.6	1.2	2.2	90.6	5.6	0.5	0.0	88.9	92.0
Slovenia	2011	632	89.8	0.8	2.6	89.8	4.9	0.8	1.1	91.5	88.1
	2015	615	90.4	0.7	2.0	90.4	5.8	0.8	0.3	89.9	90.9
South Africa	2011	1731	42.3	14.7	11.7	42.3	24.5	1.8	5.2	36.6	47.5
	2015	1794	47.8	10.2	10.1	47.8	27.0	1.0	4.0	43.8	52.2
Sweden	2011	803	89.7	1.0	1.9	89.7	4.1	2.7	0.6	89.1	90.1
	2015	581	85.0	1.3	2.9	85.0	5.6	1.6	3.6	83.4	86.5
Thailand	2011	875	83.7	4.8	2.0	83.7	6.4	1.5	1.7	84.9	82.1
	2015	931	85.9	3.1	2.1	85.9	6.6	0.6	1.7	87.9	83.7
Turkey	2011	994	79.4	3.9	7.2	79.4	8.0	0.8	0.8	77.4	81.1
	2015	875	81.6	2.9	7.3	81.6	7.2	0.2	0.9	80.2	83.0
United Arab Emirates	2011	2002	80.8	4.1	1.9	80.8	10.6	1.0	1.6	80.7	80.9
	2015	2562	79.9	5.2	4.5	79.9	8.9	1.1	0.4	82.5	77.4
United States	2011	1488	91.4	1.6	1.7	91.4	3.0	1.4	1.0	93.7	89.1
	2015	1452	89.8	1.2	2.2	89.8	3.1	1.1	2.6	89.6	90.0

International Avg (n=33)	2011	28557	79.3	3.9	3.8	79.3	10.4	1.1	1.6	78.6	80.0
	2015	31241	80.1	3.6	4.0	80.1	9.6	1.1	1.7	79.5	80.5

Ontario, Canada	2011	683	89.2	0.5	2.2	89.2	4.6	2.0	1.5	89.0	89.5
	2015	637	88.3	0.8	2.9	88.3	3.6	0.9	3.6	87.0	89.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_12A (S052289A): Earth Science / Applying Type: MC Key: C
Label: Artesian water: Moving up pipe

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	85.8	1.8	3.8	85.8	6.1	1.5	1.0	84.2	87.5
	2015	558	87.8	1.3	3.6	87.8	3.8	0.3	3.3	88.7	86.8
Norway (8)	2011	548	82.4	4.0	2.7	82.4	8.3	1.6	1.1	79.7	85.4
	2015	680	82.3	1.6	2.5	82.3	9.4	3.6	0.6	82.3	82.3
Abu Dhabi, UAE	2011	611	80.2	3.7	2.2	80.2	10.9	1.0	2.0	81.1	79.4
	2015	685	75.4	5.9	5.5	75.4	11.2	1.7	0.4	77.5	73.3
Dubai, UAE	2011	792	84.1	3.7	1.3	84.1	7.5	1.5	2.0	85.2	83.1
	2015	880	87.4	3.0	3.3	87.4	5.2	0.8	0.3	90.2	84.4
Florida, US	2011	247	92.6	2.0	1.0	92.6	3.0	1.5	0.0	93.5	91.7
	2015	295	83.1	3.3	3.6	83.1	4.2	0.9	4.9	83.8	82.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_l2B (S052289B): Earth Science / Applying Type: MC Key: A
Label: Artesian water: Difference in flow

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	59.4	59.4	5.2	20.0	14.0	0.3	1.0	54.8	63.7
	2015	1468	56.1	56.1	5.8	21.3	14.0	1.1	1.6	54.0	58.3
Bahrain	2011	662	39.0	39.0	11.5	25.3	20.5	2.0	1.6	43.0	35.2
	2015	706	38.8	38.8	13.4	25.8	17.4	1.7	2.8	41.0	36.8
Botswana	2011	767	38.9	38.9	10.8	22.9	22.7	1.6	3.2	34.1	43.9
	2015	859	28.4	28.4	7.9	16.7	19.0	19.9	8.0	24.8	32.5
Chile	2011	837	55.0	55.0	4.7	23.4	13.2	1.1	2.6	52.9	57.1
	2015	693	5.2	5.2	56.7	21.4	10.5	2.6	3.7	6.0	4.4
Chinese Taipei	2011	724	57.6	57.6	2.7	23.0	16.3	0.3	0.1	53.9	61.1
	2015	823	59.0	59.0	2.4	21.8	16.3	0.3	0.3	52.4	65.2
England	2011	530	53.0	53.0	4.1	23.5	16.3	0.4	2.8	48.4	57.2
	2015	681	53.7	53.7	4.7	24.1	15.4	0.9	1.2	51.4	55.8
Georgia	2011	652	29.1	29.1	12.4	37.4	12.6	4.9	3.6	21.6	34.8
	2015	574	24.5	24.5	14.5	33.0	23.5	2.7	1.7	25.1	24.1
Hong Kong SAR	2011	577	48.3	48.3	3.8	28.8	16.8	0.9	1.5	43.1	53.1
	2015	601	53.5	53.5	3.3	27.3	15.7	0.2	0.0	48.5	58.1
Hungary	2011	734	54.8	54.8	3.9	27.3	11.2	2.4	0.4	48.1	61.4
	2015	703	55.3	55.3	3.6	27.9	11.5	1.7	0.1	51.3	59.3
Iran, Islamic Rep. of	2011	873	40.7	40.7	8.5	24.2	23.0	1.9	1.7	36.9	43.9
	2015	891	36.7	36.7	11.6	23.4	22.4	1.9	4.1	33.9	39.3
Israel	2011	667	51.8	51.8	7.3	24.8	13.0	1.1	2.0	50.9	52.7
	2015	790	47.2	47.2	6.8	23.3	16.5	2.0	4.2	44.7	49.7
Italy	2011	577	48.2	48.2	5.0	32.0	11.5	2.0	1.3	43.2	53.0
	2015	640	47.5	47.5	5.4	29.5	12.1	3.2	2.3	41.8	53.5
Japan	2011	633	51.8	51.8	3.2	26.0	17.6	0.4	1.0	48.9	54.4
	2015	682	49.4	49.4	4.6	24.2	20.3	0.8	0.6	51.2	47.8
Jordan	2011	1112	40.8	40.8	15.3	23.7	16.8	2.0	1.3	42.9	38.9
	2015	1126	35.4	35.4	16.0	26.0	19.4	1.6	1.7	33.8	37.0
Kazakhstan	2011	631	52.6	52.6	7.5	22.4	11.7	3.3	2.6	52.0	53.2
	2015	702	61.5	61.5	8.3	18.8	9.1	1.3	0.9	59.5	63.5
Korea, Rep. of	2011	742	52.9	52.9	1.5	22.7	22.7	0.1	0.1	46.8	59.6
	2015	763	57.4	57.4	1.8	25.6	14.9	0.3	0.0	52.8	61.2
Lebanon	2011	555	27.1	27.1	25.4	22.3	15.7	3.2	6.3	21.9	33.9
	2015	523	31.5	31.5	16.0	23.6	16.2	7.5	5.3	29.6	33.5
Lithuania	2011	681	48.0	48.0	4.2	26.7	18.6	1.1	1.4	46.5	49.6
	2015	633	54.4	54.4	3.8	25.1	15.1	1.4	0.2	50.6	57.9

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S03_l2B (S052289B): Earth Science / Applying Type: MC Key: A
Label: Artesian water: Difference in flow

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	20.1	20.1	31.5	23.5	20.3	0.7	3.8	19.8	20.5
	2015	1401	43.5	43.5	7.6	25.4	15.7	3.0	4.9	40.7	46.3
Morocco	2011	1277	28.1	28.1	18.5	29.3	16.5	2.6	5.1	30.7	25.9
	2015	1869	27.9	27.9	16.3	28.7	20.3	3.2	3.5	27.9	27.9
New Zealand	2011	755	57.2	57.2	4.7	20.5	14.5	1.3	1.9	52.6	61.7
	2015	1151	56.9	56.9	6.3	21.7	11.7	1.8	1.5	54.2	60.0
Oman	2011	1362	34.6	34.6	19.0	26.6	16.5	1.5	1.9	36.1	33.1
	2015	1262	37.4	37.4	16.3	27.9	15.4	1.4	1.6	40.7	34.4
Qatar	2011	632	34.1	34.1	18.0	26.7	18.4	1.5	1.4	33.9	34.3
	2015	783	42.7	42.7	12.4	23.2	17.7	1.8	2.2	42.4	43.0
Russian Federation	2011	696	42.0	42.0	3.8	34.9	13.6	2.5	3.2	38.3	45.1
	2015	683	46.7	46.7	3.7	29.4	14.3	3.3	2.5	45.8	47.6
Saudi Arabia	2011	621	36.8	36.8	19.0	27.5	14.8	1.6	0.4	36.3	37.2
	2015	536	31.6	31.6	20.6	26.5	19.1	0.5	1.8	35.1	27.8
Singapore	2011	848	52.2	52.2	4.9	25.6	16.4	0.2	0.7	51.0	53.3
	2015	873	55.0	55.0	3.3	23.9	16.4	1.2	0.1	50.5	58.9
Slovenia	2011	632	55.7	55.7	3.3	24.6	12.1	3.1	1.3	52.3	58.9
	2015	615	57.9	57.9	6.0	25.2	7.0	3.6	0.3	53.9	61.0
South Africa	2011	1731	27.2	27.2	19.2	25.3	20.0	2.5	5.9	24.2	30.0
	2015	1794	33.1	33.1	15.1	22.0	24.2	1.4	4.3	29.5	37.1
Sweden	2011	803	40.3	40.3	3.6	36.4	16.1	2.3	1.4	35.7	44.4
	2015	581	43.2	43.2	2.5	35.1	11.0	3.7	4.4	38.9	46.6
Thailand	2011	875	40.8	40.8	7.0	31.0	16.6	2.3	2.3	36.9	45.9
	2015	931	44.2	44.2	8.6	29.8	13.8	1.8	1.7	42.1	46.6
Turkey	2011	994	43.0	43.0	9.2	24.0	20.7	2.1	1.0	41.3	44.5
	2015	875	42.0	42.0	6.5	26.4	22.6	1.5	1.0	41.7	42.4
United Arab Emirates	2011	2002	40.8	40.8	10.1	27.4	18.4	1.0	2.3	40.3	41.3
	2015	2562	43.1	43.1	10.5	28.0	16.4	1.4	0.6	42.8	43.4
United States	2011	1488	59.9	59.9	5.4	19.1	12.4	2.0	1.2	55.5	64.2
	2015	1452	61.8	61.8	4.8	17.8	11.4	1.2	3.0	59.7	64.0

International Avg (n=33)	2011	28553	44.3	44.3	9.5	26.0	16.4	1.7	2.1	41.7	46.9
	2015	31226	44.3	44.3	9.9	25.2	16.0	2.5	2.2	42.4	46.2

Ontario, Canada	2011	683	51.1	51.1	2.8	26.0	15.6	1.7	2.7	47.4	54.9
	2015	636	50.0	50.0	4.9	22.7	15.6	2.5	4.5	45.7	54.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_12B (S052289B): Earth Science / Applying Type: MC Key: A
Label: Artesian water: Difference in flow

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	867	58.4	58.4	3.4	22.6	12.6	1.5	1.5	55.0	62.0
	2015	556	60.7	60.7	3.0	20.5	12.0	0.3	3.6	56.5	65.6
Norway (8)	2011	548	42.4	42.4	4.1	33.5	17.1	1.4	1.6	40.5	44.5
	2015	680	41.0	41.0	6.0	33.3	15.7	1.6	2.3	39.0	43.5
Abu Dhabi, UAE	2011	611	38.8	38.8	11.6	29.2	16.3	1.2	2.9	39.5	38.2
	2015	685	43.6	43.6	11.4	28.0	15.0	1.6	0.4	45.6	41.7
Dubai, UAE	2011	792	45.9	45.9	7.3	25.6	17.2	1.1	2.9	43.6	47.9
	2015	880	46.3	46.3	6.4	28.2	17.6	1.3	0.3	41.5	51.4
Florida, US	2011	247	62.5	62.5	5.0	15.8	15.0	1.7	0.0	55.3	69.1
	2015	295	54.7	54.7	6.8	18.1	15.0	0.5	4.9	45.8	61.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S03_l2C (S052289C): Earth Science / Applying Type: CR 1 Point
Label: Artesian water: Temperature

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1070	37.1	49.6	12.2	1.1	37.1	37.6	36.6
	2015	1468	39.6	46.4	12.4	1.6	39.6	37.8	41.6
Bahrain	2011	662	34.0	37.6	26.1	2.4	34.0	41.0	27.4
	2015	706	31.1	43.8	21.5	3.6	31.1	34.1	28.5
Botswana	2011	767	11.5	71.2	13.2	4.1	11.5	10.6	12.4
	2015	859	9.6	46.7	16.1	27.6	9.6	10.9	8.2
Chile	2011	837	27.4	48.1	21.2	3.3	27.4	23.8	31.2
	2015	693	21.6	42.8	31.0	4.6	21.6	20.2	22.8
Chinese Taipei	2011	724	49.2	37.5	13.3	0.1	49.2	49.3	49.1
	2015	823	47.2	38.5	14.0	0.3	47.2	44.2	49.9
England	2011	530	42.4	42.2	12.4	3.1	42.4	42.6	42.1
	2015	681	42.6	43.3	12.6	1.5	42.6	43.9	41.4
Georgia	2011	652	9.7	27.8	56.6	5.9	9.7	9.6	9.8
	2015	574	13.7	30.9	51.5	3.9	13.7	12.1	15.1
Hong Kong SAR	2011	577	45.0	35.0	18.2	1.9	45.0	44.3	45.6
	2015	601	47.3	41.2	11.5	0.0	47.3	46.6	47.9
Hungary	2011	734	35.2	41.2	23.0	0.6	35.2	29.3	41.0
	2015	703	38.9	35.9	24.2	1.0	38.9	36.5	41.3
Iran, Islamic Rep. of	2011	873	43.8	39.8	13.5	2.9	43.8	44.9	42.8
	2015	891	43.3	28.6	23.6	4.6	43.3	45.7	41.1
Israel	2011	667	33.7	43.8	20.1	2.5	33.7	30.8	36.8
	2015	790	30.2	41.6	23.3	5.0	30.2	28.1	32.2
Italy	2011	577	26.1	41.7	30.2	2.1	26.1	22.7	29.3
	2015	640	22.6	44.1	29.9	3.4	22.6	20.8	24.4
Japan	2011	633	49.0	41.1	8.7	1.1	49.0	39.2	57.8
	2015	682	57.2	33.4	8.5	0.9	57.2	56.8	57.6
Jordan	2011	1112	24.0	52.4	21.7	1.9	24.0	29.4	19.2
	2015	1126	20.2	61.9	15.9	2.0	20.2	22.1	18.5
Kazakhstan	2011	630	21.6	30.6	43.7	4.0	21.6	22.9	20.4
	2015	702	51.2	19.9	27.2	1.8	51.2	55.9	46.5
Korea, Rep. of	2011	742	40.4	48.3	11.3	0.1	40.4	36.3	44.8
	2015	763	40.7	49.6	9.7	0.0	40.7	43.3	38.6
Lebanon	2011	569	12.1	46.9	33.6	7.4	12.1	10.7	13.9
	2015	553	8.4	27.1	55.0	9.5	8.4	9.7	7.0
Lithuania	2011	681	27.9	47.0	23.5	1.6	27.9	29.5	26.2
	2015	633	28.5	48.5	22.4	0.6	28.5	28.4	28.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_12C (S052289C): Earth Science / Applying Type: CR 1 Point
Label: Artesian water: Temperature

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	17.8	53.9	23.9	4.3	17.8	17.4	18.3
	2015	1401	19.7	59.0	14.5	6.7	19.7	17.7	21.7
Morocco	2011	1308	17.2	31.3	45.1	6.4	17.2	18.8	15.9
	2015	1869	12.1	45.5	37.8	4.6	12.1	13.8	10.8
New Zealand	2011	755	38.6	47.9	11.4	2.0	38.6	35.1	42.0
	2015	1151	42.3	43.8	12.1	1.9	42.3	41.6	43.1
Oman	2011	1362	32.7	41.4	23.7	2.2	32.7	43.3	21.3
	2015	1259	36.2	42.7	19.1	2.1	36.2	45.3	27.6
Qatar	2011	632	26.0	40.3	31.9	1.8	26.0	30.3	21.4
	2015	783	28.5	46.9	21.6	3.1	28.5	30.4	26.5
Russian Federation	2011	696	28.4	36.8	30.6	4.2	28.4	23.2	32.8
	2015	683	27.5	37.3	31.9	3.4	27.5	29.2	25.9
Saudi Arabia	2011	621	20.7	57.6	20.6	1.1	20.7	22.9	18.7
	2015	536	25.2	40.0	33.1	1.8	25.2	31.4	18.5
Singapore	2011	848	51.3	43.7	4.3	0.7	51.3	47.6	55.2
	2015	873	50.0	45.2	4.7	0.1	50.0	47.4	52.3
Slovenia	2011	632	36.0	44.6	17.5	1.8	36.0	33.8	38.1
	2015	615	34.8	49.7	14.8	0.7	34.8	36.8	33.3
South Africa	2011	1731	19.4	50.2	24.1	6.3	19.4	22.0	17.1
	2015	1794	17.4	60.1	17.5	5.0	17.4	18.0	16.7
Sweden	2011	801	45.8	32.8	19.0	2.4	45.8	45.1	46.5
	2015	581	45.0	29.0	21.4	4.7	45.0	46.6	43.8
Thailand	2011	875	25.8	40.7	30.2	3.3	25.8	23.5	28.7
	2015	931	26.2	49.0	22.8	2.1	26.2	25.7	26.8
Turkey	2011	994	25.7	43.0	29.4	1.9	25.7	27.1	24.5
	2015	875	34.4	40.2	24.0	1.4	34.4	35.8	33.0
United Arab Emirates	2011	2002	32.9	47.4	17.1	2.7	32.9	35.9	29.8
	2015	2560	33.3	45.7	19.9	1.1	33.3	36.3	30.3
United States	2011	1488	33.4	54.9	9.5	2.2	33.4	35.0	31.9
	2015	1452	41.2	48.3	7.0	3.5	41.2	39.4	42.9
International Avg (n=33)	2011	28595	31.0	43.9	22.5	2.7	31.0	30.8	31.2
	2015	31251	32.4	42.6	21.6	3.5	32.4	33.1	31.7
Ontario, Canada	2011	683	40.3	44.2	12.0	3.4	40.3	39.7	41.1
	2015	637	37.6	46.4	10.0	6.0	37.6	34.9	40.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S03_12C (S052289C): Earth Science / Applying Type: CR 1 Point
Label: Artesian water: Temperature

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	866	46.9	39.4	11.7	1.9	46.9	46.7	47.1
	2015	559	46.8	42.8	6.7	3.7	46.8	46.8	46.7
Norway (8)	2011	548	38.8	42.2	17.0	2.0	38.8	35.8	42.1
	2015	680	31.8	40.2	25.1	2.9	31.8	30.4	33.5
Abu Dhabi, UAE	2011	611	33.0	45.6	17.8	3.6	33.0	35.7	30.6
	2015	684	29.6	48.6	21.0	0.8	29.6	34.3	25.3
Dubai, UAE	2011	792	38.0	43.9	15.0	3.1	38.0	40.6	35.7
	2015	880	41.9	44.5	12.5	1.0	41.9	42.8	41.0
Florida, US	2011	247	34.8	52.1	13.1	0.0	34.8	39.6	30.4
	2015	295	37.0	48.2	9.9	4.9	37.0	31.8	41.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_01 (S042053): Biology / Applying Type: MC Key: C
Label: Vaccinate people against influenza

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	68.4	8.1	8.5	68.4	13.2	1.8	0.0	69.3	67.4
	2015	1451	65.0	12.7	9.6	65.0	11.4	1.2	0.1	64.3	65.8
Bahrain	2011	654	73.0	4.9	5.7	73.0	13.7	2.7	0.0	79.5	66.3
	2015	705	70.0	5.8	6.1	70.0	17.4	0.7	0.0	76.4	64.0
Botswana	2011	761	49.9	8.6	11.8	49.9	28.1	1.7	0.0	52.7	47.0
	2015	840	48.1	9.4	9.8	48.1	31.9	0.8	0.0	52.8	43.0
Chile	2011	831	65.1	10.5	3.4	65.1	19.4	1.4	0.2	60.0	70.6
	2015	673	63.2	11.1	4.3	63.2	19.8	1.6	0.0	59.4	67.3
Chinese Taipei	2011	719	95.0	1.3	2.1	95.0	1.5	0.0	0.1	96.4	93.7
	2015	805	94.9	2.5	1.8	94.9	0.8	0.0	0.0	95.1	94.7
England	2011	545	75.1	6.0	7.5	75.1	9.6	1.7	0.0	75.2	74.9
	2015	694	79.3	5.4	6.5	79.3	8.2	0.4	0.2	80.2	78.3
Georgia	2011	647	35.8	13.4	31.2	35.8	14.7	4.2	0.6	30.0	40.4
	2015	575	60.9	9.5	19.3	60.9	8.7	1.4	0.3	58.4	63.2
Hong Kong SAR	2011	574	92.1	1.1	4.8	92.1	1.5	0.6	0.0	91.2	92.9
	2015	588	93.0	0.9	3.5	93.0	2.0	0.6	0.0	93.4	92.7
Hungary	2011	729	85.6	4.4	3.4	85.6	6.0	0.5	0.0	87.4	84.0
	2015	705	84.7	4.1	3.7	84.7	6.8	0.5	0.2	85.2	84.2
Iran, Islamic Rep. of	2011	869	65.4	3.2	7.8	65.4	22.4	1.2	0.1	68.3	62.8
	2015	884	72.0	2.4	9.0	72.0	15.8	0.8	0.0	70.4	73.6
Israel	2011	674	80.8	3.4	6.4	80.8	8.2	0.8	0.4	80.1	81.5
	2015	782	79.8	2.9	8.6	79.8	6.7	1.8	0.3	81.2	78.2
Italy	2011	555	91.3	1.7	2.3	91.3	4.1	0.5	0.0	91.1	91.5
	2015	627	93.5	1.3	1.4	93.5	2.8	1.0	0.0	92.2	94.7
Japan	2011	635	78.6	7.4	7.8	78.6	6.0	0.2	0.0	79.3	78.0
	2015	673	83.5	4.2	6.6	83.5	5.4	0.2	0.2	81.3	86.1
Jordan	2011	1091	48.3	14.9	17.7	48.3	16.9	2.2	0.0	49.5	47.0
	2015	1120	50.0	13.1	18.0	50.0	16.9	1.9	0.0	53.7	46.3
Kazakhstan	2011	625	58.0	9.7	14.7	58.0	13.4	3.7	0.6	57.7	58.3
	2015	688	67.6	10.6	11.7	67.6	9.1	1.0	0.0	66.5	68.7
Korea, Rep. of	2011	742	85.7	3.7	4.1	85.7	6.5	0.0	0.0	87.5	83.8
	2015	760	84.7	3.4	3.1	84.7	8.6	0.3	0.0	82.4	86.9
Lebanon	2011	553	57.8	4.7	14.0	57.8	18.6	4.6	0.3	55.5	60.2
	2015	552	58.8	4.8	9.4	58.8	18.6	8.4	0.0	58.8	58.8
Lithuania	2011	671	59.3	15.4	13.7	59.3	9.6	2.1	0.0	53.8	64.7
	2015	628	64.0	13.0	14.8	64.0	7.7	0.4	0.0	60.9	67.2

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_01 (S042053): Biology / Applying Type: MC Key: C
Label: Vaccinate people against influenza

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	58.6	16.9	13.5	58.6	10.5	0.4	0.1	58.1	59.0
	2015	1377	58.5	16.4	14.7	58.5	9.3	1.1	0.0	59.8	57.3
Morocco	2011	1323	48.1	5.5	13.4	48.1	29.9	2.2	0.9	46.1	49.9
	2015	1871	53.0	6.8	15.4	53.0	22.5	2.3	0.0	51.5	54.2
New Zealand	2011	763	59.9	12.1	9.7	59.9	16.9	1.4	0.1	58.9	60.7
	2015	1124	60.0	12.6	11.4	60.0	15.1	0.9	0.0	62.9	56.9
Oman	2011	1359	41.9	12.0	13.9	41.9	28.3	3.8	0.0	43.9	39.8
	2015	1264	46.1	12.6	13.1	46.1	25.1	3.1	0.0	47.6	44.7
Qatar	2011	627	53.3	12.0	13.7	53.3	18.3	2.7	0.0	54.0	52.7
	2015	767	63.0	7.3	12.5	63.0	15.1	2.1	0.0	64.0	62.0
Russian Federation	2011	709	81.2	4.5	4.6	81.2	8.2	1.3	0.2	82.7	79.8
	2015	681	80.4	3.5	4.4	80.4	11.2	0.5	0.0	81.2	79.6
Saudi Arabia	2011	613	59.5	8.0	9.8	59.5	21.1	1.6	0.0	64.8	54.5
	2015	523	53.2	9.6	13.5	53.2	22.3	1.2	0.2	61.3	44.7
Singapore	2011	845	76.7	6.9	7.2	76.7	8.7	0.6	0.0	78.0	75.4
	2015	872	76.9	6.3	7.3	76.9	8.9	0.4	0.2	77.4	76.4
Slovenia	2011	630	58.7	4.8	25.1	58.7	10.7	0.7	0.0	58.8	58.5
	2015	603	73.2	3.3	15.3	73.2	6.7	1.5	0.0	73.6	72.8
South Africa	2011	1689	26.4	15.9	25.0	26.4	29.7	2.7	0.4	25.7	27.0
	2015	1785	23.6	17.0	23.5	23.6	33.4	2.4	0.1	24.7	22.6
Sweden	2011	790	80.0	9.6	4.4	80.0	5.1	0.9	0.0	80.1	79.8
	2015	594	82.8	8.3	1.9	82.8	4.7	1.8	0.5	85.6	80.7
Thailand	2011	868	88.5	1.5	5.4	88.5	3.7	0.8	0.0	93.2	82.9
	2015	927	87.5	1.8	5.7	87.5	4.3	0.6	0.0	90.1	84.4
Turkey	2011	996	50.3	12.4	26.1	50.3	9.9	1.3	0.0	51.9	48.5
	2015	880	54.1	12.5	23.5	54.1	8.5	1.2	0.1	53.7	54.5
United Arab Emirates	2011	2005	60.3	9.3	10.5	60.3	18.3	1.6	0.0	63.3	57.4
	2015	2572	58.5	11.0	11.4	58.5	17.2	2.0	0.0	61.1	55.9
United States	2011	1485	69.7	8.6	6.3	69.7	14.5	0.8	0.1	68.9	70.5
	2015	1477	73.0	7.8	6.3	73.0	11.8	1.0	0.0	72.0	74.0

International Avg (n=33)	2011	28491	66.0	8.0	10.8	66.0	13.5	1.6	0.1	66.5	65.5
	2015	31067	68.4	7.7	9.9	68.4	12.6	1.4	0.1	69.1	67.7

Ontario, Canada	2011	662	65.2	13.0	7.0	65.2	13.2	1.6	0.0	67.6	63.0
	2015	649	70.6	10.0	6.7	70.6	11.0	1.4	0.4	70.7	70.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_01 (S042053): Biology / Applying Type: MC Key: C
Label: Vaccinate people against influenza

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	86.7	2.2	3.5	86.7	5.8	1.6	0.2	85.5	88.0
	2015	573	84.1	5.4	4.3	84.1	5.0	1.1	0.0	83.3	85.1
Norway (8)	2011	541	82.8	3.2	8.7	82.8	4.0	1.0	0.2	82.0	83.6
	2015	685	82.7	3.6	7.6	82.7	4.0	2.0	0.1	84.5	80.7
Abu Dhabi, UAE	2011	623	59.0	9.1	10.3	59.0	20.1	1.6	0.0	61.8	56.4
	2015	687	53.1	12.2	14.8	53.1	17.4	2.5	0.0	59.5	47.1
Dubai, UAE	2011	795	63.7	9.4	9.8	63.7	15.7	1.2	0.1	66.6	61.0
	2015	884	72.6	8.2	7.5	72.6	11.2	0.5	0.0	75.8	69.3
Florida, US	2011	244	69.1	5.7	8.0	69.1	16.9	0.4	0.0	70.7	67.6
	2015	296	70.4	7.8	7.6	70.4	13.1	1.2	0.0	69.9	70.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_02 (S042408): Biology / Applying Type: CR 1 Point
Label: Birds can't survive without plants

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	38.4	3.6	15.1	35.4	7.4	0.0	42.0	39.7	44.4
	2015	1451	24.4	6.1	15.6	45.7	8.1	0.1	30.6	29.5	31.7
Bahrain	2011	654	30.8	1.7	22.0	30.4	15.1	0.0	32.5	37.5	27.3
	2015	705	27.5	8.1	26.4	28.0	9.9	0.0	35.7	36.4	34.9
Botswana	2011	761	8.6	6.9	22.1	58.0	4.2	0.1	15.5	16.0	15.0
	2015	840	8.3	4.1	15.5	64.8	7.2	0.1	12.3	10.7	14.1
Chile	2011	831	10.8	5.2	18.4	49.2	15.9	0.5	16.0	12.8	19.5
	2015	673	10.9	6.6	8.0	50.5	24.0	0.0	17.5	16.0	19.1
Chinese Taipei	2011	719	38.6	1.3	1.5	51.8	6.8	0.1	39.9	39.2	40.5
	2015	805	45.8	2.1	1.4	44.3	6.4	0.0	47.9	45.9	49.8
England	2011	545	40.8	5.9	15.1	29.5	8.6	0.0	46.8	43.9	49.6
	2015	694	41.3	6.3	16.3	30.5	5.4	0.2	47.6	44.4	51.0
Georgia	2011	647	23.8	6.1	13.6	29.6	25.9	1.0	29.9	27.7	31.6
	2015	575	21.3	8.4	16.8	29.6	23.5	0.3	29.7	31.1	28.5
Hong Kong SAR	2011	574	35.2	2.2	5.2	46.7	10.7	0.0	37.4	36.6	38.1
	2015	588	35.2	1.8	3.6	51.9	7.5	0.0	37.0	31.9	41.5
Hungary	2011	729	31.8	2.6	9.0	46.3	10.2	0.0	34.5	35.0	34.0
	2015	705	30.4	2.1	3.7	52.5	11.1	0.2	32.5	34.5	30.3
Iran, Islamic Rep. of	2011	869	35.2	2.3	11.6	40.8	10.0	0.1	37.5	38.8	36.4
	2015	884	36.2	5.3	13.1	32.2	13.1	0.0	41.6	37.7	45.2
Israel	2011	674	45.3	2.5	10.6	30.5	10.7	0.4	47.8	50.7	45.1
	2015	782	37.7	2.6	13.1	32.1	14.1	0.3	40.4	41.8	38.9
Italy	2011	555	15.0	8.0	6.2	54.5	16.3	0.0	23.1	20.7	25.4
	2015	626	11.9	7.8	5.2	54.7	20.3	0.0	19.7	18.9	20.5
Japan	2011	635	25.2	3.9	13.5	48.6	8.8	0.0	29.1	25.9	32.3
	2015	673	36.2	5.4	15.7	35.2	7.3	0.2	41.6	36.4	47.5
Jordan	2011	1091	38.2	3.1	15.8	32.4	10.5	0.0	41.3	39.9	42.7
	2015	1120	26.7	3.7	7.5	49.3	12.8	0.0	30.4	33.8	26.9
Kazakhstan	2011	625	23.7	10.5	6.6	40.1	18.4	0.7	34.2	38.8	29.2
	2015	688	45.9	8.2	3.7	35.0	7.3	0.0	54.1	53.9	54.3
Korea, Rep. of	2011	742	59.9	1.8	3.3	32.7	2.4	0.0	61.7	65.9	57.3
	2015	760	67.2	2.2	3.0	25.5	2.1	0.0	69.3	66.8	71.6
Lebanon	2011	555	13.7	3.3	13.9	41.8	27.1	0.3	16.9	13.6	20.4
	2015	552	12.6	1.3	0.6	49.6	35.9	0.0	13.9	14.8	12.8
Lithuania	2011	671	23.4	6.2	15.8	45.7	8.9	0.0	29.6	29.6	29.7
	2015	628	38.9	1.9	13.6	33.0	12.7	0.0	40.8	39.2	42.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_02 (S042408): Biology / Applying Type: CR 1 Point
Label: Birds can't survive without plants

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	15.4	8.8	7.8	54.8	13.0	0.1	24.3	24.6	23.9
	2015	1377	17.6	4.1	7.5	60.6	10.1	0.0	21.7	22.1	21.4
Morocco	2011	1327	22.5	5.0	19.2	33.0	19.3	1.1	27.4	24.4	30.1
	2015	1871	25.8	5.3	15.0	35.4	18.4	0.1	31.1	27.4	34.1
New Zealand	2011	763	29.8	6.9	14.3	40.6	8.2	0.1	36.7	33.1	39.8
	2015	1124	33.2	6.8	15.8	38.1	6.1	0.0	40.0	37.2	42.9
Oman	2011	1359	27.5	5.7	13.3	36.4	17.0	0.1	33.2	39.6	26.5
	2015	1263	28.3	6.8	17.1	37.0	10.9	0.0	35.1	39.0	31.3
Qatar	2011	627	23.7	4.6	13.4	40.0	18.1	0.2	28.3	28.5	28.1
	2015	767	26.5	4.6	15.4	42.6	10.8	0.0	31.2	28.9	33.6
Russian Federation	2011	709	49.5	1.2	5.7	29.9	13.5	0.2	50.8	54.1	47.6
	2015	681	49.6	0.8	4.2	35.8	9.5	0.0	50.4	56.3	45.0
Saudi Arabia	2011	615	22.6	3.6	31.8	31.7	10.4	0.0	26.2	28.4	24.0
	2015	522	19.0	2.8	28.9	35.0	14.1	0.2	21.9	23.0	20.7
Singapore	2011	845	48.7	8.3	11.9	27.0	4.1	0.0	57.1	55.6	58.4
	2015	872	46.4	6.0	8.8	35.6	3.0	0.2	52.4	52.8	52.1
Slovenia	2011	630	34.1	6.1	24.6	25.6	9.7	0.0	40.2	40.3	40.0
	2015	603	33.5	2.4	22.8	31.1	10.1	0.0	36.0	39.2	32.7
South Africa	2011	1689	8.1	5.8	13.9	60.5	11.3	0.5	13.9	10.6	16.7
	2015	1785	9.4	8.1	14.6	61.6	6.3	0.1	17.5	20.1	14.9
Sweden	2011	789	38.9	4.5	16.1	29.7	10.9	0.0	43.4	45.7	41.2
	2015	594	32.9	6.9	12.7	36.8	10.3	0.5	39.8	42.0	38.1
Thailand	2011	868	24.0	1.1	9.7	49.4	15.9	0.0	25.0	26.8	22.9
	2015	927	16.6	0.1	9.8	59.2	14.3	0.0	16.7	18.9	14.0
Turkey	2011	996	39.8	7.1	7.9	33.9	11.3	0.0	46.9	45.2	48.7
	2015	880	37.9	6.9	11.0	36.6	7.5	0.1	44.8	43.6	45.9
United Arab Emirates	2011	2005	27.3	6.1	20.9	36.0	9.7	0.0	33.4	33.8	33.1
	2015	2573	28.8	4.4	21.3	37.3	8.2	0.0	33.2	34.6	31.8
United States	2011	1485	30.2	5.3	16.6	45.0	2.7	0.2	35.6	34.3	36.9
	2015	1477	45.0	5.7	16.2	30.2	2.9	0.0	50.7	49.8	51.5

International Avg (n=33)	2011	28498	29.7	4.8	13.5	39.9	11.9	0.2	34.5	34.5	34.4
	2015	31065	30.6	4.7	12.2	41.1	11.2	0.1	35.3	35.1	35.5

Ontario, Canada	2011	662	42.5	6.4	15.0	29.4	6.6	0.0	48.9	50.2	47.8
	2015	649	41.5	5.6	15.1	31.8	5.7	0.4	47.1	46.2	47.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_02 (S042408): Biology / Applying Type: CR 1 Point
Label: Birds can't survive without plants

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	28.6	5.8	15.2	39.3	10.9	0.2	34.3	35.3	33.2
	2015	573	28.9	2.9	18.8	37.2	12.3	0.0	31.8	26.2	38.2
Norway (8)	2011	541	34.0	11.7	18.5	25.9	9.8	0.2	45.7	45.9	45.5
	2015	685	30.8	9.1	17.6	33.4	8.9	0.1	39.9	36.6	43.5
Abu Dhabi, UAE	2011	623	25.9	4.8	25.0	35.0	9.3	0.0	30.7	26.3	34.5
	2015	687	25.8	4.7	22.5	38.9	8.0	0.0	30.5	30.7	30.3
Dubai, UAE	2011	795	31.4	6.2	15.4	34.7	12.2	0.1	37.6	42.1	33.2
	2015	884	39.4	4.6	17.2	32.2	6.6	0.0	44.0	46.2	41.6
Florida, US	2011	244	33.1	6.6	12.7	43.8	3.8	0.0	39.7	41.0	38.5
	2015	296	41.7	6.3	16.0	32.6	3.4	0.0	48.0	41.1	54.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_03 (S042015): Biology / Knowing Type: MC Key: D
Label: Function of the cell membrane

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	47.0	14.7	23.5	12.5	47.0	2.3	0.0	45.9	48.1
	2015	1451	52.5	11.4	21.3	13.4	52.5	1.3	0.1	54.9	50.1
Bahrain	2011	654	45.6	28.1	10.8	13.3	45.6	2.2	0.0	52.1	38.9
	2015	706	54.3	20.0	11.2	12.9	54.3	1.6	0.0	57.7	51.1
Botswana	2011	761	71.0	9.1	7.3	11.3	71.0	1.2	0.1	74.4	67.4
	2015	840	61.8	13.3	10.6	13.1	61.8	1.0	0.1	66.5	56.7
Chile	2011	831	35.2	23.6	28.0	9.3	35.2	3.5	0.5	36.8	33.3
	2015	673	31.7	22.5	31.4	11.6	31.7	2.7	0.0	37.8	25.4
Chinese Taipei	2011	719	74.8	7.1	12.3	5.3	74.8	0.4	0.1	74.7	74.8
	2015	805	74.7	6.3	14.5	4.3	74.7	0.2	0.0	74.0	75.4
England	2011	545	47.7	17.0	18.1	15.2	47.7	1.9	0.0	51.3	44.2
	2015	694	53.8	13.6	21.8	9.9	53.8	0.7	0.2	54.2	53.4
Georgia	2011	649	45.0	17.0	24.2	7.4	45.0	5.3	1.1	47.3	43.2
	2015	575	43.3	24.9	22.5	6.1	43.3	3.0	0.3	45.6	41.2
Hong Kong SAR	2011	574	52.4	18.1	18.8	9.9	52.4	0.7	0.2	52.4	52.3
	2015	588	53.4	15.8	18.0	12.4	53.4	0.4	0.0	48.2	58.1
Hungary	2011	729	48.3	13.7	16.9	18.6	48.3	2.6	0.0	48.3	48.3
	2015	705	45.3	17.4	17.1	18.0	45.3	2.1	0.2	44.8	45.9
Iran, Islamic Rep. of	2011	869	53.5	20.5	15.0	9.5	53.5	1.4	0.1	55.2	51.9
	2015	884	62.3	14.7	13.2	8.0	62.3	1.8	0.0	65.6	59.3
Israel	2011	674	71.7	10.5	10.2	5.9	71.7	1.4	0.4	72.2	71.2
	2015	782	61.5	12.7	14.3	8.5	61.5	2.6	0.3	62.7	60.3
Italy	2011	555	45.2	26.7	17.1	8.6	45.2	2.4	0.0	45.2	45.2
	2015	627	41.8	29.0	15.6	9.9	41.8	3.7	0.0	41.5	42.1
Japan	2011	635	45.8	25.0	14.6	14.3	45.8	0.3	0.0	46.2	45.4
	2015	673	44.1	27.6	10.1	17.7	44.1	0.3	0.2	43.0	45.3
Jordan	2011	1091	40.8	19.9	21.4	15.3	40.8	2.7	0.0	44.7	36.8
	2015	1120	33.0	24.6	23.1	17.0	33.0	2.3	0.0	35.5	30.5
Kazakhstan	2011	625	45.8	7.9	23.0	18.4	45.8	4.1	0.7	47.9	43.4
	2015	687	55.1	7.7	19.6	16.2	55.1	1.4	0.0	59.6	50.5
Korea, Rep. of	2011	742	63.3	14.3	7.0	15.4	63.3	0.0	0.0	66.6	59.8
	2015	760	63.6	19.2	6.8	10.2	63.6	0.2	0.0	63.1	64.0
Lebanon	2011	552	40.7	18.0	21.0	13.5	40.7	6.4	0.3	43.1	38.1
	2015	552	39.8	15.7	19.3	15.7	39.8	8.9	0.6	42.3	36.9
Lithuania	2011	671	59.3	15.1	11.9	11.2	59.3	2.4	0.0	58.7	59.9
	2015	628	54.9	19.9	12.0	12.1	54.9	1.2	0.0	56.6	53.1

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_03 (S042015): Biology / Knowing Type: MC Key: D
Label: Function of the cell membrane

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	55.8	12.9	13.9	16.2	55.8	1.0	0.2	61.8	49.3
	2015	1377	49.2	11.8	23.1	15.2	49.2	0.7	0.0	52.9	45.6
Morocco	2011	1324	19.5	28.8	27.1	19.2	19.5	4.3	1.1	24.0	15.5
	2015	1871	19.8	29.4	28.6	18.8	19.8	3.2	0.2	22.3	17.7
New Zealand	2011	763	51.5	14.3	20.2	12.1	51.5	1.7	0.1	46.8	55.5
	2015	1124	49.8	15.6	20.9	12.6	49.8	1.1	0.0	54.3	45.3
Oman	2011	1359	53.5	21.1	11.1	11.1	53.5	3.2	0.1	62.9	43.5
	2015	1264	53.4	20.6	12.4	12.0	53.4	1.6	0.0	60.0	47.1
Qatar	2011	627	50.7	17.3	14.7	16.4	50.7	0.7	0.2	55.6	46.3
	2015	767	62.2	16.8	9.3	9.8	62.2	1.5	0.4	67.3	56.9
Russian Federation	2011	709	51.6	7.1	8.7	28.9	51.6	3.5	0.2	50.6	52.6
	2015	681	50.6	9.2	11.1	26.0	50.6	3.0	0.0	48.7	52.4
Saudi Arabia	2011	616	34.5	37.8	13.2	13.4	34.5	0.9	0.2	37.9	31.4
	2015	523	28.6	41.1	18.3	10.9	28.6	0.9	0.2	30.9	26.2
Singapore	2011	845	82.5	5.4	4.9	6.9	82.5	0.5	0.0	85.9	79.2
	2015	873	84.2	5.4	2.9	7.0	84.2	0.3	0.2	86.3	82.4
Slovenia	2011	630	44.3	22.6	12.7	17.9	44.3	2.5	0.0	44.2	44.4
	2015	603	68.2	13.9	9.8	7.2	68.2	0.9	0.0	73.2	63.1
South Africa	2011	1689	37.5	22.7	26.6	10.2	37.5	2.4	0.6	41.1	34.5
	2015	1785	45.8	24.6	19.3	8.5	45.8	1.8	0.1	48.1	43.4
Sweden	2011	790	33.6	31.9	22.0	9.3	33.6	3.1	0.0	29.5	37.5
	2015	594	28.1	38.2	19.8	11.1	28.1	2.4	0.5	28.3	27.9
Thailand	2011	868	56.8	11.8	18.0	11.1	56.8	2.1	0.2	60.4	52.5
	2015	927	56.3	9.7	21.0	12.0	56.3	1.0	0.0	63.7	47.4
Turkey	2011	996	49.8	17.4	12.9	18.5	49.8	1.4	0.0	52.4	47.0
	2015	880	45.5	16.9	16.6	20.7	45.5	0.2	0.1	51.5	40.1
United Arab Emirates	2011	2005	53.2	20.8	13.7	10.9	53.2	1.4	0.0	56.4	50.1
	2015	2573	53.2	21.6	12.2	11.2	53.2	1.9	0.0	56.5	50.0
United States	2011	1485	45.3	16.5	22.5	15.1	45.3	0.4	0.2	42.2	48.5
	2015	1477	53.0	14.1	19.5	12.4	53.0	1.0	0.0	50.8	54.9

International Avg (n=33)	2011	28496	50.1	18.0	16.5	13.1	50.1	2.1	0.2	52.0	48.2
	2015	31069	50.8	18.3	16.6	12.5	50.8	1.7	0.1	53.0	48.5

Ontario, Canada	2011	662	63.2	10.9	13.4	11.4	63.2	1.1	0.0	62.8	63.6
	2015	649	66.8	8.3	13.7	10.1	66.8	0.8	0.4	73.1	60.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_03 (S042015): Biology / Knowing Type: MC Key: D
Label: Function of the cell membrane

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	63.6	9.6	15.6	8.1	63.6	2.9	0.2	65.1	62.1
	2015	573	65.9	8.8	17.0	5.9	65.9	2.4	0.0	68.1	63.3
Norway (8)	2011	541	53.4	6.4	27.4	9.4	53.4	3.3	0.2	52.9	53.8
	2015	685	54.6	8.5	23.0	11.1	54.6	2.7	0.1	55.4	53.6
Abu Dhabi, UAE	2011	623	55.1	20.6	12.9	10.3	55.1	1.1	0.0	55.2	55.0
	2015	687	51.2	21.8	13.1	11.3	51.2	2.6	0.0	54.5	48.0
Dubai, UAE	2011	795	56.1	17.7	12.8	11.9	56.1	1.4	0.1	63.1	49.4
	2015	884	64.4	15.1	10.1	9.6	64.4	0.7	0.0	69.3	59.4
Florida, US	2011	244	42.7	13.9	23.6	19.4	42.7	0.4	0.0	48.5	37.2
	2015	296	48.1	15.1	23.8	12.7	48.1	0.3	0.0	45.3	50.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_04 (S042309): Biology / Applying Type: MC Key: D
Label: Giraffes with short and long necks

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	52.3	23.0	12.7	9.7	52.3	2.2	0.0	60.4	44.1
	2015	1451	51.5	21.1	15.6	10.2	51.5	1.5	0.1	53.1	49.9
Bahrain	2011	654	45.1	17.7	18.5	16.0	45.1	2.8	0.0	53.7	36.1
	2015	706	46.8	16.8	19.6	14.8	46.8	2.0	0.0	53.3	40.7
Botswana	2011	761	32.7	42.9	11.6	9.9	32.7	2.6	0.1	33.8	31.6
	2015	840	34.1	39.9	12.3	10.8	34.1	2.8	0.2	35.5	32.4
Chile	2011	831	35.2	51.3	6.9	4.7	35.2	1.3	0.5	35.5	34.8
	2015	673	37.5	45.8	8.5	6.4	37.5	1.9	0.0	38.9	36.0
Chinese Taipei	2011	719	59.1	33.6	2.9	4.1	59.1	0.1	0.1	61.4	57.0
	2015	805	58.5	34.3	3.6	3.6	58.5	0.0	0.0	56.8	60.2
England	2011	545	55.8	20.5	10.5	12.0	55.8	1.3	0.0	59.8	51.8
	2015	694	53.7	20.3	11.0	13.9	53.7	0.9	0.2	54.1	53.2
Georgia	2011	649	40.5	36.8	9.1	8.2	40.5	4.0	1.3	48.4	34.2
	2015	575	39.9	30.6	18.3	7.6	39.9	2.9	0.7	39.0	40.8
Hong Kong SAR	2011	574	29.9	42.5	16.6	10.3	29.9	0.5	0.2	32.6	27.3
	2015	588	37.9	45.9	11.4	4.4	37.9	0.4	0.0	40.7	35.4
Hungary	2011	729	63.7	18.0	13.2	3.7	63.7	1.3	0.0	66.4	61.2
	2015	705	68.3	13.1	15.2	3.1	68.3	0.1	0.2	68.0	68.7
Iran, Islamic Rep. of	2011	869	40.4	43.1	9.5	5.8	40.4	1.1	0.1	39.8	40.9
	2015	884	55.7	17.8	15.5	9.6	55.7	1.4	0.1	61.7	50.1
Israel	2011	674	53.7	21.8	13.9	8.2	53.7	2.0	0.4	58.5	49.5
	2015	782	52.5	19.6	14.2	11.0	52.5	2.4	0.3	55.6	49.3
Italy	2011	555	46.9	42.5	6.5	3.0	46.9	1.0	0.0	49.4	44.6
	2015	627	50.7	37.8	7.3	3.6	50.7	0.7	0.0	49.2	52.0
Japan	2011	635	21.7	72.9	2.3	2.6	21.7	0.4	0.0	22.3	21.1
	2015	673	26.2	68.9	2.9	1.7	26.2	0.2	0.2	29.2	22.8
Jordan	2011	1091	47.8	17.5	15.7	16.3	47.8	2.4	0.3	53.4	42.2
	2015	1120	47.0	16.9	21.0	12.8	47.0	2.4	0.0	51.5	42.4
Kazakhstan	2011	625	44.6	36.3	7.7	6.1	44.6	4.6	0.7	46.7	42.3
	2015	688	57.7	27.7	5.9	7.5	57.7	1.1	0.1	58.3	57.1
Korea, Rep. of	2011	0	.	.	.	.	.	.	.	.	.
	2015	760	35.1	55.6	4.8	4.6	35.1	0.0	0.0	38.3	32.2
Lebanon	2011	553	31.4	16.7	23.4	18.6	31.4	9.7	0.3	33.5	29.0
	2015	548	29.6	17.4	19.9	17.1	29.6	15.4	0.6	31.2	27.9
Lithuania	2011	671	50.7	31.3	10.6	5.8	50.7	1.6	0.0	53.8	47.5
	2015	628	50.5	38.9	6.7	3.6	50.5	0.3	0.0	51.2	49.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_04 (S042309): Biology / Applying Type: MC Key: D
Label: Giraffes with short and long necks

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	44.6	30.4	14.4	8.7	44.6	1.7	0.2	49.6	39.2
	2015	1377	57.6	19.6	14.1	7.8	57.6	0.9	0.0	61.5	53.9
Morocco	2011	1325	49.0	16.1	15.3	14.8	49.0	3.5	1.2	55.1	43.6
	2015	1871	47.6	15.7	18.1	15.4	47.6	3.0	0.3	51.0	44.8
New Zealand	2011	763	50.0	23.4	16.9	7.5	50.0	2.2	0.1	53.1	47.4
	2015	1124	49.1	25.4	14.0	9.7	49.1	1.8	0.0	51.8	46.5
Oman	2011	1359	39.3	21.2	19.4	15.8	39.3	4.0	0.1	45.8	32.5
	2015	1264	44.5	19.6	16.7	16.0	44.5	3.1	0.0	51.2	38.1
Qatar	2011	627	37.0	21.9	20.5	19.0	37.0	1.4	0.2	41.4	32.9
	2015	766	42.7	19.4	16.7	18.3	42.7	2.4	0.5	42.2	43.2
Russian Federation	2011	709	49.5	37.3	5.3	4.9	49.5	2.8	0.2	48.8	50.2
	2015	681	51.4	37.5	5.8	3.8	51.4	1.3	0.1	53.4	49.6
Saudi Arabia	2011	616	49.4	14.8	15.0	19.0	49.4	1.6	0.2	54.2	44.9
	2015	524	44.2	14.6	22.1	17.4	44.2	1.4	0.2	54.1	33.8
Singapore	2011	845	46.6	34.7	8.4	9.9	46.6	0.4	0.0	51.9	41.6
	2015	873	47.3	32.4	10.4	9.3	47.3	0.4	0.2	49.5	45.4
Slovenia	2011	630	43.1	47.5	5.3	2.7	43.1	1.5	0.0	41.3	44.8
	2015	603	57.1	31.0	7.9	2.9	57.1	1.0	0.0	57.7	56.5
South Africa	2011	1689	34.9	29.6	17.0	14.9	34.9	2.9	0.7	37.3	32.6
	2015	1785	34.0	33.0	15.7	14.6	34.0	2.4	0.3	37.6	30.5
Sweden	2011	790	47.6	24.4	17.9	8.8	47.6	1.3	0.0	48.5	46.7
	2015	594	43.0	30.4	17.3	7.3	43.0	1.6	0.5	44.6	41.8
Thailand	2011	868	34.8	31.0	17.5	14.1	34.8	2.4	0.2	37.6	31.4
	2015	927	32.5	35.7	16.7	13.4	32.5	1.7	0.0	34.4	30.1
Turkey	2011	996	34.9	40.7	11.7	11.0	34.9	1.6	0.0	35.8	34.0
	2015	880	40.6	42.4	7.1	9.0	40.6	0.9	0.1	40.2	41.0
United Arab Emirates	2011	2005	46.8	21.1	14.7	15.7	46.8	1.6	0.1	49.9	43.8
	2015	2573	46.9	20.8	15.8	14.7	46.9	1.8	0.0	50.8	43.0
United States	2011	1485	51.1	24.6	13.1	10.4	51.1	0.6	0.2	55.0	47.0
	2015	1477	54.1	24.6	11.1	8.9	54.1	1.1	0.1	58.1	50.5

International Avg (n=33)	2011	27756	44.1	30.8	12.6	10.1	44.1	2.1	0.2	47.3	40.9
	2015	31066	46.2	29.4	12.8	9.5	46.2	1.8	0.1	48.6	43.9

Ontario, Canada	2011	662	53.3	17.2	15.3	12.9	53.3	1.2	0.0	58.3	48.8
	2015	649	50.3	21.7	15.3	10.4	50.3	2.1	0.4	53.1	47.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_04 (S042309): Biology / Applying Type: MC Key: D
Label: Giraffes with short and long necks

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	45.2	42.8	5.8	4.1	45.2	1.9	0.2	46.3	43.9
	2015	572	48.6	43.9	3.6	3.1	48.6	0.6	0.2	49.3	47.8
Norway (8)	2011	541	51.3	17.0	23.2	7.5	51.3	0.7	0.2	56.7	46.4
	2015	685	51.4	19.6	19.1	8.7	51.4	0.9	0.3	51.5	51.3
Abu Dhabi, UAE	2011	623	47.4	18.9	14.9	16.7	47.4	1.9	0.2	52.4	43.1
	2015	687	45.3	21.7	18.0	12.6	45.3	2.3	0.1	50.4	40.6
Dubai, UAE	2011	795	44.4	23.3	14.6	16.4	44.4	1.1	0.1	46.2	42.8
	2015	884	48.9	21.1	12.6	15.5	48.9	2.0	0.0	49.9	47.9
Florida, US	2011	244	57.8	25.3	8.1	8.3	57.8	0.0	0.4	61.7	54.2
	2015	296	52.6	30.6	9.6	5.8	52.6	1.4	0.0	62.7	42.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_05A (S042049A): Biology / Applying Type: CR 1 Point
Label: Population of rabbits and lynxes

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	83.6	13.5	2.9	0.0	83.6	88.8	78.3
	2015	1451	78.8	17.0	4.1	0.1	78.8	82.6	74.7
Bahrain	2011	654	59.5	25.2	15.2	0.1	59.5	70.0	48.7
	2015	706	64.0	26.8	9.1	0.0	64.0	72.8	55.9
Botswana	2011	761	57.1	40.8	1.9	0.3	57.1	62.9	51.1
	2015	840	51.7	44.0	3.9	0.3	51.7	56.0	47.0
Chile	2011	832	70.5	16.7	12.3	0.5	70.5	71.8	69.1
	2015	673	69.5	16.9	13.4	0.1	69.5	69.3	69.8
Chinese Taipei	2011	719	77.1	15.5	7.3	0.1	77.1	80.4	74.0
	2015	805	72.6	20.3	7.1	0.0	72.6	72.8	72.4
England	2011	545	81.1	16.2	2.4	0.3	81.1	84.1	78.1
	2015	694	89.7	8.8	1.4	0.2	89.7	92.6	86.5
Georgia	2011	649	44.3	18.7	35.7	1.3	44.3	50.5	39.3
	2015	575	57.4	19.4	22.5	0.7	57.4	56.5	58.1
Hong Kong SAR	2011	574	84.7	8.5	6.5	0.2	84.7	88.5	81.1
	2015	588	86.1	11.8	2.1	0.0	86.1	87.2	85.2
Hungary	2011	729	79.0	11.3	9.8	0.0	79.0	82.2	76.0
	2015	705	82.2	11.5	6.2	0.2	82.2	84.0	80.4
Iran, Islamic Rep. of	2011	869	40.0	36.1	23.8	0.1	40.0	42.7	37.6
	2015	884	48.8	26.8	24.3	0.1	48.8	50.2	47.5
Israel	2011	674	82.4	10.9	6.3	0.4	82.4	85.6	79.5
	2015	782	80.8	10.2	8.7	0.3	80.8	83.8	77.6
Italy	2011	555	69.2	17.7	13.1	0.0	69.2	69.5	68.9
	2015	627	71.6	13.1	15.3	0.0	71.6	71.8	71.5
Japan	2011	635	91.7	4.4	3.9	0.0	91.7	93.5	89.9
	2015	673	91.9	5.3	2.6	0.2	91.9	92.5	91.3
Jordan	2011	1091	58.3	32.9	8.5	0.4	58.3	63.2	53.4
	2015	1120	52.4	37.3	10.3	0.0	52.4	62.0	42.5
Kazakhstan	2011	624	36.5	34.2	28.5	0.7	36.5	39.9	32.8
	2015	688	60.1	22.1	17.7	0.1	60.1	64.9	55.2
Korea, Rep. of	2011	742	92.4	4.4	3.2	0.0	92.4	94.2	90.6
	2015	760	91.4	5.1	3.6	0.0	91.4	93.6	89.4
Lebanon	2011	555	57.3	20.3	22.1	0.3	57.3	57.3	57.4
	2015	552	25.6	49.5	24.4	0.6	25.6	30.2	20.2
Lithuania	2011	671	72.4	17.7	9.9	0.0	72.4	78.1	66.8
	2015	628	77.2	14.8	8.0	0.0	77.2	81.7	72.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_05A (S042049A): Biology / Applying Type: CR 1 Point
Label: Population of rabbits and lynxes

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	53.5	33.5	12.5	0.5	53.5	57.0	49.7
	2015	1377	63.3	27.2	9.5	0.0	63.3	69.3	57.6
Morocco	2011	1327	46.9	29.1	22.8	1.2	46.9	48.1	45.8
	2015	1870	46.2	35.3	18.3	0.3	46.2	46.1	46.3
New Zealand	2011	763	80.7	14.8	4.4	0.1	80.7	81.6	79.8
	2015	1124	81.9	14.6	3.5	0.0	81.9	85.0	78.7
Oman	2011	1359	45.6	39.5	14.7	0.1	45.6	56.3	34.2
	2015	1263	54.4	36.1	9.6	0.0	54.4	59.2	49.7
Qatar	2011	627	53.3	33.8	12.5	0.3	53.3	56.9	50.0
	2015	767	67.3	26.3	5.8	0.6	67.3	72.6	61.7
Russian Federation	2011	709	61.7	19.3	18.9	0.2	61.7	69.3	54.6
	2015	680	73.4	12.6	13.9	0.1	73.4	80.5	66.7
Saudi Arabia	2011	617	46.9	39.0	14.0	0.2	46.9	48.2	45.7
	2015	524	38.9	42.7	18.2	0.2	38.9	46.6	30.8
Singapore	2011	845	90.7	7.3	1.9	0.1	90.7	95.0	86.6
	2015	873	93.1	5.8	0.9	0.2	93.1	93.0	93.1
Slovenia	2011	630	86.3	9.9	3.8	0.0	86.3	87.6	85.1
	2015	603	87.9	9.2	2.9	0.0	87.9	90.7	84.9
South Africa	2011	1689	27.3	60.9	10.9	0.9	27.3	27.8	27.0
	2015	1785	42.8	51.3	5.5	0.4	42.8	45.4	40.4
Sweden	2011	790	74.3	18.5	7.2	0.0	74.3	80.6	68.3
	2015	593	77.1	13.4	9.0	0.5	77.1	81.1	73.9
Thailand	2011	868	53.7	24.4	21.7	0.2	53.7	58.2	48.4
	2015	927	49.2	31.8	18.9	0.1	49.2	54.6	42.5
Turkey	2011	996	74.5	16.8	8.6	0.1	74.5	77.3	71.5
	2015	880	74.5	18.7	6.6	0.1	74.5	80.1	69.5
United Arab Emirates	2011	2005	67.0	26.5	6.5	0.1	67.0	71.8	62.2
	2015	2572	68.5	25.4	6.1	0.0	68.5	74.8	62.4
United States	2011	1485	78.9	18.6	2.3	0.2	78.9	83.8	73.9
	2015	1477	81.6	16.6	1.6	0.2	81.6	87.2	76.4
International Avg (n=33)	2011	28503	66.0	22.3	11.4	0.3	66.0	69.8	62.3
	2015	31066	68.2	22.0	9.5	0.2	68.2	71.8	64.6
Ontario, Canada	2011	662	87.0	8.9	4.1	0.0	87.0	88.9	85.2
	2015	649	83.3	13.5	2.9	0.4	83.3	89.5	77.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_05A (S042049A): Biology / Applying Type: CR 1 Point
Label: Population of rabbits and lynxes

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	871	77.1	15.7	7.1	0.2	77.1	82.3	71.4
	2015	573	81.3	13.7	4.8	0.2	81.3	86.1	75.7
Norway (8)	2011	541	71.3	21.4	7.1	0.2	71.3	77.2	66.0
	2015	685	69.3	19.9	10.5	0.3	69.3	73.0	65.3
Abu Dhabi, UAE	2011	623	66.6	29.2	4.0	0.2	66.6	70.2	63.4
	2015	687	65.7	26.7	7.5	0.1	65.7	72.1	59.9
Dubai, UAE	2011	795	71.4	22.4	6.0	0.1	71.4	79.0	64.1
	2015	884	78.9	17.5	3.5	0.1	78.9	82.8	74.9
Florida, US	2011	244	82.3	12.4	4.8	0.4	82.3	86.8	78.2
	2015	296	78.5	19.3	2.2	0.0	78.5	84.9	72.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_05B (S042049B): Biology / Reasoning Type: CR 1 Point
Label: Number of lynxes in 1996 vs 2004

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	63.7	25.9	10.3	0.0	63.7	63.7	63.7
	2015	1451	58.0	31.6	10.2	0.1	58.0	55.5	60.7
Bahrain	2011	654	24.2	51.0	24.5	0.3	24.2	27.8	20.5
	2015	706	32.5	49.9	17.6	0.0	32.5	37.1	28.2
Botswana	2011	761	18.7	74.7	6.4	0.3	18.7	21.3	16.0
	2015	840	10.8	78.7	10.1	0.4	10.8	8.9	12.9
Chile	2011	832	41.9	35.7	21.8	0.6	41.9	35.8	48.7
	2015	673	39.6	36.6	23.6	0.2	39.6	33.4	46.0
Chinese Taipei	2011	719	68.6	20.0	11.3	0.1	68.6	68.4	68.7
	2015	805	71.6	18.1	10.3	0.0	71.6	69.9	73.3
England	2011	545	62.3	29.9	7.6	0.3	62.3	60.8	63.8
	2015	694	66.0	27.6	6.3	0.2	66.0	64.7	67.4
Georgia	2011	649	33.5	17.7	47.1	1.8	33.5	35.1	32.2
	2015	575	43.6	18.7	36.4	1.3	43.6	32.7	53.5
Hong Kong SAR	2011	574	62.3	23.5	14.1	0.2	62.3	67.0	57.7
	2015	588	67.6	23.0	9.4	0.0	67.6	67.9	67.4
Hungary	2011	729	66.0	13.1	20.3	0.5	66.0	62.6	69.0
	2015	705	70.1	15.1	14.5	0.3	70.1	66.8	73.7
Iran, Islamic Rep. of	2011	869	31.2	34.6	34.1	0.1	31.2	30.4	31.9
	2015	884	34.6	28.4	36.7	0.2	34.6	32.9	36.3
Israel	2011	674	51.0	32.5	16.0	0.5	51.0	49.2	52.6
	2015	782	42.0	38.4	19.2	0.4	42.0	38.5	45.6
Italy	2011	555	43.9	21.9	34.2	0.0	43.9	41.9	45.9
	2015	627	47.0	20.4	32.6	0.0	47.0	41.8	51.9
Japan	2011	635	30.6	56.8	12.5	0.0	30.6	28.6	32.6
	2015	673	39.7	50.1	9.7	0.4	39.7	39.5	40.1
Jordan	2011	1091	34.0	46.3	19.3	0.4	34.0	37.2	30.7
	2015	1120	20.0	57.9	22.2	0.0	20.0	21.9	18.0
Kazakhstan	2011	624	21.5	22.7	55.0	0.7	21.5	20.9	22.2
	2015	688	30.6	32.0	37.2	0.2	30.6	32.3	28.8
Korea, Rep. of	2011	742	62.9	28.2	8.8	0.0	62.9	59.3	66.8
	2015	760	70.1	20.2	9.7	0.0	70.1	69.5	70.6
Lebanon	2011	555	14.3	50.0	35.5	0.3	14.3	12.3	16.5
	2015	552	5.6	53.1	40.2	1.1	5.6	4.7	6.6
Lithuania	2011	671	61.2	20.2	18.5	0.0	61.2	60.2	62.2
	2015	628	66.2	15.3	18.4	0.0	66.2	64.9	67.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_05B (S042049B): Biology / Reasoning Type: CR 1 Point
Label: Number of lynxes in 1996 vs 2004

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	26.3	52.2	20.8	0.7	26.3	27.5	24.9
	2015	1377	34.3	48.0	17.6	0.2	34.3	32.9	35.5
Morocco	2011	1327	10.3	48.5	39.3	1.9	10.3	9.7	10.9
	2015	1868	15.3	46.3	38.0	0.4	15.3	13.9	16.5
New Zealand	2011	763	59.6	29.6	10.5	0.2	59.6	57.4	61.5
	2015	1124	60.0	30.9	9.1	0.1	60.0	59.1	60.8
Oman	2011	1359	21.0	53.4	25.2	0.5	21.0	26.1	15.6
	2015	1261	34.3	48.0	17.6	0.1	34.3	40.6	28.1
Qatar	2011	627	26.9	48.6	24.2	0.3	26.9	25.9	27.8
	2015	767	30.7	55.1	13.2	1.0	30.7	33.0	28.4
Russian Federation	2011	709	49.2	12.5	38.2	0.2	49.2	52.1	46.4
	2015	680	55.5	14.0	29.8	0.7	55.5	58.5	52.7
Saudi Arabia	2011	617	16.8	57.0	26.0	0.2	16.8	17.0	16.7
	2015	523	13.5	54.5	31.8	0.2	13.5	15.4	11.4
Singapore	2011	845	74.1	22.1	3.7	0.1	74.1	74.3	73.9
	2015	873	77.7	19.4	2.7	0.2	77.7	74.7	80.2
Slovenia	2011	630	64.2	24.1	11.8	0.0	64.2	64.6	63.7
	2015	603	64.6	25.6	9.8	0.0	64.6	67.5	61.6
South Africa	2011	1689	12.8	64.1	22.0	1.0	12.8	11.5	14.1
	2015	1785	14.6	71.6	13.0	0.8	14.6	14.2	15.0
Sweden	2011	790	65.9	15.5	18.7	0.0	65.9	68.4	63.5
	2015	593	66.0	19.1	14.4	0.5	66.0	69.6	63.1
Thailand	2011	868	20.9	45.4	33.6	0.2	20.9	23.2	18.1
	2015	927	24.1	51.0	24.5	0.4	24.1	27.2	20.4
Turkey	2011	995	44.8	36.6	18.5	0.1	44.8	42.4	47.3
	2015	880	49.6	37.2	12.9	0.3	49.6	52.1	47.2
United Arab Emirates	2011	2005	30.4	54.4	15.0	0.2	30.4	30.7	30.1
	2015	2573	32.6	52.7	14.7	0.1	32.6	33.8	31.4
United States	2011	1485	61.2	33.8	4.7	0.4	61.2	59.0	63.4
	2015	1477	72.5	23.7	3.5	0.2	72.5	73.3	71.8
International Avg (n=33)	2011	28502	41.7	36.4	21.5	0.4	41.7	41.6	41.8
	2015	31062	44.3	36.7	18.7	0.3	44.3	43.9	44.6
Ontario, Canada	2011	662	67.8	23.1	8.8	0.3	67.8	70.6	65.2
	2015	649	75.7	16.1	7.8	0.4	75.7	75.8	75.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_05B (S042049B): Biology / Reasoning Type: CR 1 Point
Label: Number of lynxes in 1996 vs 2004

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	871	67.1	19.6	12.8	0.5	67.1	67.9	66.2
	2015	573	70.8	19.3	9.2	0.7	70.8	68.3	73.6
Norway (8)	2011	541	44.8	33.4	21.5	0.2	44.8	45.9	43.8
	2015	685	42.7	35.4	21.6	0.3	42.7	43.3	42.1
Abu Dhabi, UAE	2011	623	28.8	58.9	12.0	0.4	28.8	30.6	27.2
	2015	687	27.5	55.8	16.6	0.1	27.5	29.7	25.5
Dubai, UAE	2011	795	39.9	44.1	15.9	0.1	39.9	39.2	40.6
	2015	884	49.7	40.6	9.6	0.1	49.7	49.3	50.0
Florida, US	2011	244	54.7	35.5	9.3	0.4	54.7	54.9	54.6
	2015	296	68.8	25.8	5.4	0.0	68.8	65.8	71.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_06 (S042182): Physics / Knowing Type: MC Key: C
Label: Type of energy compressed spring

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	76.1	12.2	9.5	76.1	1.3	0.6	0.3	71.5	80.8
	2015	1451	82.8	7.9	7.3	82.8	1.1	0.8	0.2	80.0	85.8
Bahrain	2011	654	59.1	15.9	14.6	59.1	8.2	1.9	0.3	64.7	53.3
	2015	706	60.0	15.9	15.2	60.0	7.8	1.0	0.0	63.0	57.2
Botswana	2011	761	55.7	15.5	17.6	55.7	8.9	1.7	0.6	57.2	54.2
	2015	835	49.7	16.9	23.0	49.7	7.6	1.9	0.9	49.6	49.9
Chile	2011	832	79.0	9.2	4.4	79.0	5.7	1.2	0.6	72.6	86.0
	2015	673	77.5	9.4	6.6	77.5	3.5	2.6	0.2	72.1	83.1
Chinese Taipei	2011	719	66.2	11.2	10.0	66.2	12.0	0.3	0.2	61.8	70.2
	2015	805	68.1	9.3	9.8	68.1	12.6	0.3	0.0	61.9	74.2
England	2011	545	73.2	12.8	9.0	73.2	2.2	2.6	0.3	70.8	75.5
	2015	694	72.3	14.3	10.6	72.3	2.2	0.5	0.2	67.7	77.2
Georgia	2011	649	33.1	21.4	23.0	33.1	13.8	6.8	1.8	27.0	37.9
	2015	575	73.3	7.9	10.0	73.3	5.6	1.9	1.3	71.6	74.7
Hong Kong SAR	2011	574	82.3	3.1	2.9	82.3	11.2	0.3	0.2	78.4	86.0
	2015	588	83.0	3.2	1.6	83.0	12.0	0.2	0.0	80.8	85.0
Hungary	2011	729	86.3	2.8	5.5	86.3	4.1	0.7	0.5	84.7	87.7
	2015	705	89.5	2.8	4.5	89.5	2.8	0.2	0.3	87.6	91.5
Iran, Islamic Rep. of	2011	869	75.4	6.0	13.9	75.4	3.9	0.7	0.1	68.7	81.2
	2015	884	80.2	4.3	9.5	80.2	5.6	0.1	0.4	78.1	82.2
Israel	2011	674	62.3	8.9	3.4	62.3	23.3	1.5	0.7	58.0	66.2
	2015	782	62.0	10.7	5.1	62.0	19.9	1.9	0.4	56.7	67.6
Italy	2011	555	88.6	4.6	4.2	88.6	2.0	0.6	0.0	86.7	90.4
	2015	627	90.0	3.9	1.9	90.0	4.2	0.0	0.0	87.5	92.4
Japan	2011	635	45.5	26.9	14.6	45.5	12.7	0.3	0.0	43.2	47.6
	2015	673	49.1	23.3	13.6	49.1	13.5	0.1	0.4	45.2	53.6
Jordan	2011	1090	58.9	15.2	15.6	58.9	8.8	1.1	0.4	57.6	60.2
	2015	1120	57.1	16.0	14.3	57.1	10.5	2.1	0.0	59.6	54.5
Kazakhstan	2011	625	70.2	10.8	11.1	70.2	3.9	3.2	0.7	71.3	69.1
	2015	688	81.9	4.9	10.3	81.9	1.1	1.5	0.2	84.0	79.7
Korea, Rep. of	2011	742	76.3	13.3	5.1	76.3	4.8	0.5	0.0	72.7	80.1
	2015	760	82.7	7.3	1.7	82.7	8.0	0.3	0.0	84.4	81.2
Lebanon	2011	550	62.1	15.8	10.8	62.1	8.2	2.9	0.3	59.1	65.3
	2015	552	61.8	16.7	9.6	61.8	5.4	5.4	1.1	62.4	61.2
Lithuania	2011	671	87.8	4.7	2.4	87.8	4.7	0.3	0.0	87.5	88.1
	2015	628	89.5	5.2	1.3	89.5	3.8	0.2	0.0	86.6	92.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_06 (S042182): Physics / Knowing Type: MC Key: C
Label: Type of energy compressed spring

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	76.2	9.2	7.4	76.2	5.8	0.6	0.8	80.8	71.4
	2015	1377	85.4	6.2	3.7	85.4	3.9	0.6	0.2	88.5	82.5
Morocco	2011	1323	35.7	16.1	33.9	35.7	8.1	4.1	2.0	32.2	38.9
	2015	1849	56.0	14.1	16.3	56.0	10.6	2.6	0.5	54.6	57.1
New Zealand	2011	763	75.7	10.7	9.6	75.7	2.3	1.4	0.2	70.5	79.9
	2015	1124	76.0	9.1	10.9	76.0	3.3	0.5	0.1	71.9	80.2
Oman	2011	1359	29.4	46.5	11.4	29.4	9.4	2.8	0.5	28.0	31.0
	2015	1264	34.7	40.0	11.6	34.7	12.0	1.6	0.1	36.8	32.6
Qatar	2011	627	50.6	19.8	18.0	50.6	9.6	1.7	0.3	47.5	53.5
	2015	767	52.8	17.1	18.3	52.8	8.5	2.4	1.0	52.6	52.9
Russian Federation	2011	709	82.7	7.9	4.7	82.7	2.8	1.5	0.3	82.4	83.1
	2015	681	85.3	6.9	4.5	85.3	1.8	0.8	0.7	82.2	88.2
Saudi Arabia	2011	614	51.5	17.2	14.9	51.5	15.7	0.6	0.2	51.7	51.4
	2015	524	42.4	19.3	21.8	42.4	15.5	0.9	0.2	43.1	41.6
Singapore	2011	845	89.5	5.6	2.5	89.5	2.2	0.1	0.1	89.0	89.9
	2015	873	90.0	5.6	2.0	90.0	2.2	0.0	0.2	90.2	89.9
Slovenia	2011	630	85.0	10.6	2.5	85.0	1.6	0.3	0.0	84.5	85.4
	2015	603	79.3	12.8	3.4	79.3	3.0	1.7	0.0	79.0	79.5
South Africa	2011	1689	42.0	19.1	23.8	42.0	11.2	2.5	1.3	40.9	43.0
	2015	1785	47.4	21.7	17.6	47.4	9.4	2.6	1.3	46.6	48.2
Sweden	2011	790	37.2	37.4	13.9	37.2	9.1	2.3	0.0	39.0	35.6
	2015	593	40.8	36.8	12.4	40.8	7.8	1.7	0.5	38.3	43.1
Thailand	2011	868	65.4	13.6	13.2	65.4	5.2	2.4	0.3	69.0	61.1
	2015	927	65.5	10.6	14.1	65.5	8.2	1.1	0.4	67.9	62.7
Turkey	2011	996	65.2	12.4	11.4	65.2	9.6	1.3	0.1	63.8	66.7
	2015	880	69.6	12.6	7.4	69.6	9.8	0.2	0.3	71.1	68.3
United Arab Emirates	2011	2005	50.9	20.3	20.6	50.9	6.6	1.4	0.3	48.3	53.3
	2015	2573	59.6	19.7	14.1	59.6	4.8	1.8	0.1	56.9	62.2
United States	2011	1485	77.5	10.4	8.5	77.5	2.2	1.0	0.5	73.7	81.3
	2015	1477	82.2	7.9	7.3	82.2	1.6	0.7	0.3	79.3	84.9

International Avg (n=33)	2011	28491	65.2	14.2	11.3	65.2	7.3	1.6	0.4	63.5	66.8
	2015	31043	69.0	12.7	9.7	69.0	7.0	1.2	0.4	67.8	70.2

Ontario, Canada	2011	662	71.7	17.0	6.7	71.7	2.1	2.1	0.3	67.3	75.7
	2015	648	73.4	17.3	5.8	73.4	2.4	0.5	0.6	69.3	77.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_06 (S042182): Physics / Knowing Type: MC Key: C
Label: Type of energy compressed spring

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	70.9	15.3	9.1	70.9	2.6	1.6	0.5	64.1	78.4
	2015	572	71.4	11.5	11.2	71.4	3.2	1.3	1.4	66.9	76.4
Norway (8)	2011	541	57.9	13.0	12.7	57.9	14.5	1.7	0.2	53.3	62.0
	2015	685	58.1	10.6	14.0	58.1	10.9	6.2	0.3	48.9	68.2
Abu Dhabi, UAE	2011	623	50.5	18.2	22.4	50.5	6.9	1.6	0.4	46.7	53.9
	2015	687	57.9	20.5	14.0	57.9	5.1	2.3	0.2	54.5	61.0
Dubai, UAE	2011	795	60.2	18.5	15.7	60.2	4.2	1.3	0.1	59.0	61.3
	2015	884	71.4	12.0	12.3	71.4	3.1	1.0	0.1	69.0	74.0
Florida, US	2011	244	83.8	6.1	5.1	83.8	2.1	1.7	1.1	79.4	87.9
	2015	296	86.7	7.5	4.9	86.7	0.9	0.0	0.0	87.0	86.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_07 (S042402): Physics / Applying Type: CR 1 Point
Label: Heat flow in metal cubes

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	16.6	59.7	21.6	1.9	0.3	16.6	13.7	19.6
	2015	1451	12.2	57.8	29.2	0.6	0.2	12.2	10.4	14.2
Bahrain	2011	654	13.8	53.2	28.3	4.4	0.3	13.8	18.3	9.2
	2015	706	26.3	35.9	36.3	1.4	0.1	26.3	33.9	19.2
Botswana	2011	761	9.8	55.8	31.4	2.3	0.7	9.8	11.2	8.4
	2015	835	8.0	50.7	38.2	1.9	1.2	8.0	9.1	6.7
Chile	2011	832	22.2	50.3	22.8	4.1	0.6	22.2	20.5	24.1
	2015	673	18.6	42.7	32.9	5.0	0.8	18.6	17.9	19.4
Chinese Taipei	2011	719	56.0	33.3	10.3	0.3	0.2	56.0	52.3	59.3
	2015	805	54.2	23.9	21.5	0.4	0.0	54.2	53.1	55.4
England	2011	545	17.1	61.1	19.9	1.5	0.3	17.1	14.8	19.5
	2015	694	24.1	51.7	22.3	1.8	0.2	24.1	25.6	22.4
Georgia	2011	649	7.1	52.8	28.4	9.9	1.8	7.1	5.3	8.6
	2015	575	17.6	45.0	30.1	5.7	1.6	17.6	15.9	19.1
Hong Kong SAR	2011	574	20.5	43.8	35.0	0.5	0.2	20.5	19.9	21.1
	2015	588	25.0	43.3	30.8	0.9	0.0	25.0	23.4	26.4
Hungary	2011	729	20.8	50.2	27.8	0.7	0.5	20.8	19.4	22.1
	2015	704	25.3	45.9	26.2	2.3	0.3	25.3	20.1	31.0
Iran, Islamic Rep. of	2011	869	14.4	55.8	26.3	3.4	0.1	14.4	15.0	13.9
	2015	884	12.6	53.0	31.1	2.8	0.4	12.6	13.0	12.2
Israel	2011	674	28.0	38.3	30.8	2.0	0.9	28.0	29.2	27.0
	2015	782	29.6	37.8	29.6	2.4	0.5	29.6	31.4	27.6
Italy	2011	555	15.7	47.8	32.1	4.4	0.0	15.7	14.6	16.6
	2015	627	17.2	49.4	28.6	4.8	0.0	17.2	14.6	19.6
Japan	2011	635	20.6	33.2	44.6	1.6	0.0	20.6	20.8	20.4
	2015	673	21.9	31.4	45.1	1.2	0.4	21.9	20.2	23.8
Jordan	2011	1091	14.9	40.7	42.3	1.7	0.4	14.9	16.7	13.1
	2015	1120	14.8	15.0	66.4	3.7	0.0	14.8	17.5	12.0
Kazakhstan	2011	625	33.4	19.5	37.7	8.6	0.7	33.4	30.7	36.3
	2015	688	42.9	22.6	32.7	1.6	0.2	42.9	45.8	39.8
Korea, Rep. of	2011	742	44.4	31.6	23.1	0.8	0.0	44.4	45.7	43.1
	2015	760	46.0	23.7	29.3	1.0	0.0	46.0	46.0	46.1
Lebanon	2011	555	10.4	49.5	31.5	8.3	0.3	10.4	11.2	9.5
	2015	552	10.3	49.9	32.0	6.7	1.1	10.3	10.8	9.7
Lithuania	2011	671	7.2	64.3	28.1	0.4	0.0	7.2	6.1	8.3
	2015	628	18.9	49.6	30.6	0.9	0.0	18.9	19.5	18.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_07 (S042402): Physics / Applying Type: CR 1 Point
Label: Heat flow in metal cubes

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	8.4	53.0	34.2	3.6	0.8	8.4	9.5	7.3
	2015	1377	8.1	47.0	39.2	5.4	0.3	8.1	9.0	7.3
Morocco	2011	1327	12.0	41.9	37.7	6.3	2.1	12.0	12.0	12.0
	2015	1849	8.4	52.6	35.3	3.2	0.5	8.4	9.8	7.2
New Zealand	2011	763	8.8	61.3	28.2	1.5	0.2	8.8	8.2	9.2
	2015	1124	12.8	58.8	27.2	1.0	0.2	12.8	13.3	12.2
Oman	2011	1359	17.8	47.0	30.8	3.9	0.5	17.8	24.2	11.0
	2015	1264	25.7	43.1	28.4	2.6	0.2	25.7	32.1	19.5
Qatar	2011	627	10.2	49.5	37.3	2.6	0.3	10.2	10.9	9.6
	2015	766	21.2	30.4	45.9	1.3	1.2	21.2	21.7	20.6
Russian Federation	2011	709	40.4	25.8	31.9	1.5	0.3	40.4	41.1	39.9
	2015	681	45.1	18.6	34.3	1.4	0.7	45.1	51.2	39.3
Saudi Arabia	2011	616	15.6	48.5	34.5	1.3	0.2	15.6	17.2	14.1
	2015	524	15.9	51.5	30.2	2.2	0.2	15.9	22.3	9.2
Singapore	2011	845	46.2	30.0	23.4	0.3	0.1	46.2	47.1	45.3
	2015	873	54.5	25.2	19.8	0.3	0.2	54.5	57.1	52.3
Slovenia	2011	630	27.3	39.1	32.7	0.9	0.0	27.3	31.3	23.6
	2015	603	26.9	9.9	62.5	0.8	0.0	26.9	27.4	26.3
South Africa	2011	1689	20.9	51.0	23.8	2.6	1.6	20.9	19.2	22.3
	2015	1785	3.5	47.0	45.8	2.2	1.5	3.5	4.0	3.1
Sweden	2011	790	15.2	63.8	18.5	2.4	0.0	15.2	16.4	14.2
	2015	592	14.0	63.0	20.9	1.6	0.5	14.0	12.7	15.2
Thailand	2011	868	20.5	44.4	25.5	9.4	0.3	20.5	20.2	20.8
	2015	927	18.6	45.0	28.1	7.7	0.7	18.6	21.1	15.6
Turkey	2011	996	45.6	28.3	20.5	5.5	0.1	45.6	48.2	42.9
	2015	880	50.7	18.9	28.0	2.0	0.3	50.7	58.5	43.7
United Arab Emirates	2011	2005	14.1	47.7	36.5	1.4	0.3	14.1	16.2	12.0
	2015	2573	17.1	42.6	38.1	2.1	0.2	17.1	17.9	16.3
United States	2011	1485	16.2	55.9	26.1	1.2	0.6	16.2	16.5	15.8
	2015	1477	21.5	52.5	24.7	1.1	0.3	21.5	20.5	22.5

International Avg (n=33)	2011	28503	21.0	46.3	29.2	3.1	0.4	21.0	21.3	20.6
	2015	31040	23.3	40.5	33.4	2.4	0.4	23.3	24.5	22.2

Ontario, Canada	2011	662	18.0	58.2	20.8	1.6	1.3	18.0	21.4	15.0
	2015	649	15.7	55.5	26.3	1.7	0.8	15.7	12.6	18.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_07 (S042402): Physics / Applying Type: CR 1 Point
Label: Heat flow in metal cubes

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	18.3	52.2	25.8	3.1	0.5	18.3	18.5	18.1
	2015	573	15.4	54.9	26.7	1.6	1.4	15.4	16.7	13.9
Norway (8)	2011	541	20.2	60.9	17.4	1.4	0.2	20.2	19.4	20.8
	2015	685	13.2	57.7	26.3	2.5	0.3	13.2	12.7	13.8
Abu Dhabi, UAE	2011	623	14.9	44.3	39.5	0.9	0.4	14.9	17.4	12.8
	2015	687	13.4	43.2	40.4	2.8	0.2	13.4	12.9	13.8
Dubai, UAE	2011	795	16.5	48.7	32.8	1.9	0.1	16.5	19.9	13.4
	2015	884	25.5	41.6	31.6	1.2	0.1	25.5	27.2	23.7
Florida, US	2011	244	25.6	46.7	24.1	2.5	1.1	25.6	24.2	26.9
	2015	296	31.4	38.9	28.5	1.2	0.0	31.4	28.2	34.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08A (S042228A): Chemistry / Reasoning Type: CR 1 Point
Label: Volume of the neck chain

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	12.6	1.2	60.4	25.6	0.3	13.8	13.5	14.1
	2015	1451	11.8	0.9	63.1	24.1	0.2	12.7	11.8	13.7
Bahrain	2011	654	9.8	5.9	48.4	35.3	0.7	15.6	23.5	7.5
	2015	706	8.8	10.4	59.4	21.3	0.1	19.2	26.5	12.4
Botswana	2011	761	2.9	0.8	78.7	16.8	0.8	3.8	5.9	1.6
	2015	835	2.1	0.6	76.8	19.3	1.2	2.7	2.9	2.5
Chile	2011	832	6.4	0.5	53.1	39.4	0.7	6.8	6.6	7.1
	2015	673	3.1	0.2	52.5	43.4	0.8	3.3	3.8	2.8
Chinese Taipei	2011	719	22.3	22.5	34.7	20.2	0.2	44.8	46.0	43.8
	2015	805	15.0	11.4	52.4	21.2	0.0	26.4	27.9	25.0
England	2011	545	4.0	7.4	61.3	27.0	0.3	11.4	11.5	11.3
	2015	694	12.3	3.5	60.2	23.8	0.2	15.8	15.0	16.7
Georgia	2011	649	5.7	4.2	21.7	66.5	1.8	10.0	11.3	9.0
	2015	575	6.5	3.6	33.9	54.0	2.0	10.1	7.0	13.0
Hong Kong SAR	2011	574	16.0	24.3	37.4	22.2	0.2	40.2	45.3	35.3
	2015	588	18.8	19.9	43.5	17.8	0.0	38.8	38.8	38.7
Hungary	2011	729	7.1	9.7	39.6	43.0	0.5	16.8	16.4	17.3
	2015	704	11.4	5.1	40.5	42.7	0.3	16.5	16.9	16.2
Iran, Islamic Rep. of	2011	869	6.7	1.3	45.8	45.9	0.2	8.0	8.3	7.7
	2015	884	14.4	0.8	45.0	39.2	0.5	15.3	16.7	14.0
Israel	2011	674	17.5	0.5	56.4	24.7	1.0	18.0	20.0	16.2
	2015	782	18.7	4.3	44.0	32.3	0.7	23.0	25.1	20.8
Italy	2011	555	13.4	1.7	49.5	35.3	0.1	15.1	13.1	17.0
	2015	627	13.1	0.4	47.8	38.5	0.1	13.5	11.5	15.3
Japan	2011	635	42.4	3.9	44.1	9.6	0.0	46.4	47.3	45.5
	2015	673	41.5	4.1	48.2	5.5	0.6	45.7	45.3	46.0
Jordan	2011	1091	5.2	3.9	62.2	28.0	0.6	9.1	10.2	8.0
	2015	1120	3.0	1.1	66.0	29.8	0.2	4.1	5.0	3.1
Kazakhstan	2011	625	11.5	3.9	27.3	56.5	0.7	15.4	15.9	14.8
	2015	688	25.1	0.8	40.1	33.7	0.2	26.0	29.4	22.3
Korea, Rep. of	2011	742	26.2	6.6	54.9	12.2	0.0	32.9	35.1	30.5
	2015	760	21.7	2.9	64.1	11.3	0.0	24.7	28.0	21.7
Lebanon	2011	555	6.5	1.0	46.1	45.8	0.6	7.5	6.0	9.2
	2015	552	6.5	1.0	36.6	54.2	1.7	7.5	9.4	5.3
Lithuania	2011	671	20.8	0.7	45.4	33.1	0.0	21.5	21.4	21.6
	2015	628	22.2	1.8	41.0	35.1	0.0	23.9	24.2	23.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08A (S042228A): Chemistry / Reasoning Type: CR 1 Point
Label: Volume of the neck chain

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	3.3	1.4	68.7	25.8	0.8	4.7	5.2	4.3
	2015	1377	2.5	1.5	71.6	23.7	0.6	4.0	5.3	2.8
Morocco	2011	1327	2.2	0.1	48.0	47.1	2.6	2.3	1.8	2.7
	2015	1871	1.7	0.4	51.1	46.1	0.6	2.1	2.2	2.1
New Zealand	2011	763	13.9	0.7	62.7	22.5	0.2	14.6	11.0	17.5
	2015	1124	15.2	2.2	60.4	21.8	0.4	17.4	14.8	20.0
Oman	2011	1359	5.2	1.9	59.3	33.0	0.6	7.1	11.3	2.6
	2015	1259	7.0	2.4	63.5	26.9	0.2	9.4	13.7	5.2
Qatar	2011	627	4.3	1.3	54.0	40.1	0.3	5.6	7.2	4.1
	2015	767	6.0	2.2	53.0	37.6	1.2	8.2	9.4	7.0
Russian Federation	2011	709	17.4	9.3	27.9	45.0	0.3	26.7	26.7	26.6
	2015	681	20.7	10.0	23.8	44.7	0.8	30.7	32.1	29.4
Saudi Arabia	2011	616	3.0	1.7	63.4	31.9	0.2	4.6	6.7	2.7
	2015	524	3.5	0.7	64.4	31.2	0.2	4.2	5.5	2.7
Singapore	2011	845	36.8	8.2	45.6	9.3	0.1	44.9	46.1	43.8
	2015	873	39.2	5.9	46.9	7.9	0.2	45.0	52.4	38.8
Slovenia	2011	630	27.9	3.5	44.1	24.1	0.3	31.4	34.5	28.5
	2015	603	27.6	1.3	43.7	27.4	0.0	28.9	31.0	26.8
South Africa	2011	1689	2.9	6.5	61.7	27.2	1.7	9.4	11.2	7.8
	2015	1785	0.8	1.1	76.0	20.5	1.6	2.0	2.3	1.6
Sweden	2011	789	18.2	2.5	40.6	38.6	0.1	20.7	22.2	19.2
	2015	594	25.5	1.2	36.9	35.7	0.6	26.7	25.0	28.4
Thailand	2011	868	1.5	6.1	49.8	42.0	0.6	7.6	7.9	7.3
	2015	927	0.8	3.6	54.7	40.3	0.7	4.3	4.8	3.7
Turkey	2011	996	16.1	4.8	46.5	32.3	0.3	20.9	23.6	18.2
	2015	880	18.3	5.6	52.1	23.5	0.5	23.9	28.8	19.4
United Arab Emirates	2011	2005	5.3	2.2	65.3	26.7	0.4	7.5	7.9	7.1
	2015	2573	6.4	2.3	66.5	24.7	0.2	8.7	9.5	7.9
United States	2011	1485	20.7	0.5	65.7	12.3	0.8	21.2	23.6	18.7
	2015	1477	27.6	0.6	61.3	10.2	0.4	28.2	28.7	27.5

International Avg (n=33)	2011	28502	12.6	4.6	50.6	31.7	0.5	17.2	18.3	16.0
	2015	31060	13.9	3.5	52.8	29.4	0.5	17.4	18.5	16.3

Ontario, Canada	2011	662	14.5	4.4	58.3	21.5	1.3	18.9	19.6	18.2
	2015	649	17.4	4.0	58.2	19.6	0.8	21.4	23.9	19.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08A (S042228A): Chemistry / Reasoning Type: CR 1 Point
Label: Volume of the neck chain

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	870	26.8	3.5	48.9	20.2	0.7	30.3	32.4	28.0
	2015	573	20.8	2.3	53.7	21.7	1.5	23.1	21.7	24.7
Norway (8)	2011	541	18.0	1.9	49.0	30.8	0.2	19.9	21.4	18.6
	2015	685	12.6	0.9	49.1	37.0	0.3	13.6	13.9	13.2
Abu Dhabi, UAE	2011	623	4.3	2.9	68.4	23.9	0.5	7.2	7.2	7.2
	2015	687	6.6	1.3	70.0	21.9	0.2	7.9	8.5	7.2
Dubai, UAE	2011	795	6.9	1.3	63.0	28.4	0.3	8.3	10.1	6.5
	2015	884	10.2	5.0	62.9	21.7	0.1	15.3	16.6	13.8
Florida, US	2011	244	21.0	0.0	62.7	15.1	1.1	21.0	24.9	17.3
	2015	296	23.7	0.6	63.9	11.7	0.0	24.4	21.9	26.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08B (S042228B): Chemistry / Reasoning Type: CR 1 Point
Label: Complete table 3 with percent gold

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	66.6	17.6	15.6	0.3	66.6	67.1	66.1
	2015	1451	63.9	15.9	19.5	0.7	63.9	67.0	60.7
Bahrain	2011	654	36.7	25.9	36.2	1.2	36.7	45.4	27.7
	2015	705	44.1	36.5	19.0	0.4	44.1	54.3	34.7
Botswana	2011	761	32.9	44.4	20.8	1.9	32.9	41.4	24.1
	2015	835	32.9	42.4	22.1	2.6	32.9	35.8	29.6
Chile	2011	832	50.9	20.8	26.7	1.6	50.9	51.2	50.6
	2015	673	47.5	13.8	37.7	1.0	47.5	47.6	47.3
Chinese Taipei	2011	719	70.2	12.9	16.7	0.2	70.2	73.5	67.1
	2015	805	73.8	10.1	16.1	0.0	73.8	76.8	70.8
England	2011	545	72.6	12.5	13.0	1.9	72.6	74.7	70.5
	2015	694	72.7	13.1	13.9	0.3	72.7	75.1	70.0
Georgia	2011	649	13.1	9.4	75.4	2.1	13.1	17.5	9.7
	2015	575	18.9	14.3	64.8	2.0	18.9	16.2	21.3
Hong Kong SAR	2011	574	69.7	13.9	16.3	0.2	69.7	75.1	64.5
	2015	588	70.8	16.6	12.6	0.0	70.8	74.1	68.0
Hungary	2011	729	70.8	14.5	14.0	0.6	70.8	74.1	67.9
	2015	704	70.9	13.6	15.2	0.3	70.9	73.2	68.4
Iran, Islamic Rep. of	2011	869	36.8	29.3	33.1	0.8	36.8	38.4	35.5
	2015	884	38.5	25.0	35.5	1.1	38.5	43.0	34.2
Israel	2011	674	57.1	18.3	22.9	1.7	57.1	58.5	55.8
	2015	782	52.4	20.0	26.4	1.1	52.4	51.3	53.6
Italy	2011	555	57.1	12.3	29.9	0.6	57.1	55.1	59.0
	2015	627	60.8	11.4	27.5	0.2	60.8	58.5	63.0
Japan	2011	635	78.1	11.2	10.7	0.0	78.1	78.8	77.5
	2015	673	80.6	8.8	10.0	0.6	80.6	84.2	76.6
Jordan	2011	1091	27.1	44.3	27.7	0.9	27.1	28.4	25.7
	2015	1120	26.2	46.4	26.3	1.1	26.2	30.6	21.6
Kazakhstan	2011	625	44.0	15.9	38.6	1.5	44.0	47.3	40.4
	2015	688	52.4	20.3	26.9	0.4	52.4	54.8	49.9
Korea, Rep. of	2011	742	83.0	9.0	8.0	0.0	83.0	84.2	81.7
	2015	760	77.7	10.1	11.9	0.2	77.7	81.2	74.6
Lebanon	2011	555	30.1	19.4	48.0	2.6	30.1	33.1	26.9
	2015	552	26.0	15.6	55.7	2.7	26.0	28.3	23.4
Lithuania	2011	671	61.8	16.6	21.6	0.0	61.8	63.6	60.0
	2015	628	64.5	12.8	22.3	0.3	64.5	65.9	63.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08B (S042228B): Chemistry / Reasoning Type: CR 1 Point
Label: Complete table 3 with percent gold

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	48.9	30.4	19.1	1.5	48.9	51.6	46.1
	2015	1377	58.3	26.6	14.1	1.0	58.3	64.9	52.1
Morocco	2011	1327	16.7	36.6	42.9	3.7	16.7	18.8	14.9
	2015	1870	15.7	41.1	42.2	1.1	15.7	16.4	15.1
New Zealand	2011	763	64.0	16.9	18.8	0.3	64.0	60.0	67.3
	2015	1124	66.1	16.4	16.8	0.8	66.1	64.6	67.6
Oman	2011	1359	21.5	50.7	26.8	0.9	21.5	27.7	14.9
	2015	1263	32.6	48.3	18.7	0.3	32.6	39.4	26.0
Qatar	2011	627	31.2	33.9	34.1	0.8	31.2	36.4	26.4
	2015	767	43.1	33.6	21.5	1.8	43.1	44.7	41.5
Russian Federation	2011	709	58.0	9.4	31.5	1.0	58.0	58.8	57.2
	2015	681	64.9	6.8	27.4	0.9	64.9	66.5	63.4
Saudi Arabia	2011	616	23.8	49.5	26.3	0.4	23.8	26.6	21.1
	2015	524	20.4	52.8	26.6	0.2	20.4	25.8	14.8
Singapore	2011	845	82.4	12.0	5.4	0.2	82.4	85.7	79.3
	2015	873	82.8	12.6	4.2	0.4	82.8	84.7	81.2
Slovenia	2011	630	69.9	16.6	13.2	0.3	69.9	69.0	70.7
	2015	603	73.4	10.6	16.0	0.0	73.4	75.8	70.9
South Africa	2011	1689	20.9	51.5	24.8	2.7	20.9	21.7	20.3
	2015	1785	28.5	52.8	16.2	2.5	28.5	33.2	23.9
Sweden	2011	790	53.0	13.7	32.8	0.5	53.0	56.0	50.2
	2015	594	51.9	15.8	30.8	1.5	51.9	50.4	53.2
Thailand	2011	868	37.0	15.1	46.8	1.1	37.0	42.1	31.0
	2015	927	38.6	19.1	41.6	0.7	38.6	44.9	31.0
Turkey	2011	996	39.9	26.1	33.7	0.3	39.9	45.7	33.9
	2015	880	49.6	28.8	20.7	0.9	49.6	57.5	42.4
United Arab Emirates	2011	2005	42.9	34.1	22.2	0.8	42.9	47.5	38.5
	2015	2573	50.3	31.0	18.2	0.4	50.3	58.3	42.5
United States	2011	1485	64.0	18.7	16.3	1.0	64.0	66.2	61.7
	2015	1477	65.8	20.1	13.1	1.0	65.8	68.6	63.2

International Avg (n=33)	2011	28503	49.5	23.1	26.4	1.0	49.5	52.2	46.8
	2015	31062	52.0	23.1	24.0	0.9	52.0	55.0	49.1

Ontario, Canada	2011	662	65.4	13.8	18.6	2.2	65.4	72.2	59.3
	2015	649	62.0	16.1	19.3	2.6	62.0	62.6	61.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08B (S042228B): Chemistry / Reasoning Type: CR 1 Point
Label: Complete table 3 with percent gold

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	871	70.8	11.3	16.9	1.0	70.8	72.5	69.0
	2015	573	65.7	10.2	22.2	1.8	65.7	67.5	63.6
Norway (8)	2011	541	56.8	15.1	27.9	0.2	56.8	58.0	55.6
	2015	685	52.4	11.6	35.5	0.6	52.4	54.2	50.4
Abu Dhabi, UAE	2011	623	38.9	38.0	22.1	1.0	38.9	40.9	37.1
	2015	687	45.9	34.0	19.7	0.5	45.9	56.4	36.1
Dubai, UAE	2011	795	53.5	24.1	21.6	0.8	53.5	59.2	48.0
	2015	884	65.6	21.3	12.8	0.3	65.6	69.1	62.0
Florida, US	2011	244	62.1	14.6	22.1	1.1	62.1	68.8	55.9
	2015	296	61.1	22.6	16.0	0.4	61.1	62.6	59.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08C (S042228C): Chemistry / Applying Type: CR 1 Point
Label: Neck chain with most gold

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	46.2	38.9	14.6	0.3	46.2	46.0	46.5
	2015	1451	48.4	33.5	17.3	0.8	48.4	50.0	46.7
Bahrain	2011	654	22.0	45.8	30.5	1.6	22.0	27.0	16.8
	2015	704	18.5	65.6	15.5	0.4	18.5	24.1	13.4
Botswana	2011	761	6.7	79.8	10.6	2.9	6.7	10.4	2.8
	2015	835	10.6	75.2	9.7	4.4	10.6	10.2	11.0
Chile	2011	832	8.3	56.2	33.1	2.3	8.3	11.4	5.0
	2015	673	7.1	48.7	42.8	1.4	7.1	6.8	7.4
Chinese Taipei	2011	719	63.3	21.0	15.5	0.2	63.3	64.8	61.8
	2015	805	69.9	16.1	13.9	0.1	69.9	73.4	66.5
England	2011	545	48.9	32.8	16.5	1.9	48.9	51.7	46.0
	2015	694	57.6	25.7	16.4	0.3	57.6	62.5	52.5
Georgia	2011	649	8.0	26.1	63.7	2.1	8.0	9.8	6.6
	2015	575	11.2	33.6	53.2	2.0	11.2	8.5	13.6
Hong Kong SAR	2011	574	61.8	20.3	17.7	0.2	61.8	67.7	56.1
	2015	588	64.6	20.9	14.6	0.0	64.6	67.6	61.9
Hungary	2011	729	51.4	32.5	15.5	0.6	51.4	55.4	47.9
	2015	704	51.8	28.8	18.9	0.4	51.8	52.7	50.9
Iran, Islamic Rep. of	2011	869	7.5	56.7	34.6	1.2	7.5	7.1	7.9
	2015	884	9.3	50.6	38.2	1.9	9.3	9.3	9.3
Israel	2011	674	43.8	31.8	22.6	1.7	43.8	46.4	41.5
	2015	782	38.2	32.6	27.8	1.3	38.2	36.5	40.1
Italy	2011	555	34.5	31.5	33.4	0.6	34.5	33.4	35.5
	2015	627	33.8	35.0	30.9	0.4	33.8	32.6	34.8
Japan	2011	635	59.8	31.9	8.3	0.0	59.8	61.3	58.4
	2015	673	67.1	24.4	7.6	0.9	67.1	70.1	63.7
Jordan	2011	1091	10.1	64.9	24.1	0.9	10.1	10.3	10.0
	2015	1120	8.1	67.3	23.2	1.4	8.1	9.1	7.1
Kazakhstan	2011	625	30.3	38.3	29.8	1.6	30.3	36.0	24.2
	2015	688	38.5	40.8	20.3	0.4	38.5	41.1	35.7
Korea, Rep. of	2011	742	62.6	29.9	7.3	0.1	62.6	63.1	62.1
	2015	760	57.7	30.3	11.8	0.2	57.7	59.5	56.1
Lebanon	2011	555	16.7	39.1	41.2	3.0	16.7	17.5	15.9
	2015	552	13.6	32.0	51.8	2.7	13.6	14.1	12.9
Lithuania	2011	671	48.8	28.1	23.1	0.0	48.8	53.1	44.4
	2015	628	48.1	26.8	24.8	0.3	48.1	49.3	46.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08C (S042228C): Chemistry / Applying Type: CR 1 Point
Label: Neck chain with most gold

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	27.7	52.6	17.5	2.2	27.7	31.5	23.6
	2015	1377	34.8	48.7	15.2	1.3	34.8	40.1	29.8
Morocco	2011	1327	5.6	51.4	38.8	4.2	5.6	6.6	4.7
	2015	1867	5.6	53.8	39.3	1.3	5.6	6.1	5.1
New Zealand	2011	763	39.2	41.8	18.7	0.3	39.2	35.0	42.7
	2015	1124	43.6	36.7	18.9	0.8	43.6	44.9	42.2
Oman	2011	1359	9.4	64.8	24.6	1.3	9.4	14.0	4.4
	2015	1263	16.1	65.8	17.3	0.8	16.1	19.8	12.6
Qatar	2011	627	17.7	54.9	26.6	0.8	17.7	20.0	15.6
	2015	767	23.9	52.9	21.4	1.8	23.9	23.8	24.1
Russian Federation	2011	709	43.3	29.0	26.5	1.2	43.3	42.3	44.2
	2015	681	47.8	25.2	25.9	1.1	47.8	50.8	45.0
Saudi Arabia	2011	616	14.3	63.8	21.5	0.4	14.3	16.5	12.2
	2015	523	7.6	68.5	23.5	0.4	7.6	9.6	5.6
Singapore	2011	845	70.3	24.5	4.9	0.2	70.3	73.5	67.2
	2015	873	74.9	19.3	5.3	0.5	74.9	77.8	72.4
Slovenia	2011	630	38.0	42.3	19.4	0.3	38.0	38.4	37.5
	2015	603	39.6	41.2	19.2	0.0	39.6	41.8	37.3
South Africa	2011	1689	9.5	73.9	12.9	3.7	9.5	10.2	9.0
	2015	1785	11.8	74.6	10.3	3.3	11.8	13.9	9.7
Sweden	2011	790	36.2	35.4	27.5	0.9	36.2	38.9	33.6
	2015	594	36.4	32.4	29.0	2.2	36.4	33.2	39.3
Thailand	2011	868	15.1	47.6	36.0	1.4	15.1	16.0	14.0
	2015	927	14.4	54.8	29.9	1.0	14.4	18.5	9.5
Turkey	2011	996	16.3	52.9	30.5	0.3	16.3	19.2	13.3
	2015	880	19.7	60.1	19.0	1.2	19.7	25.0	15.0
United Arab Emirates	2011	2005	27.8	53.6	17.8	0.9	27.8	30.7	25.0
	2015	2573	33.6	47.6	18.1	0.7	33.6	38.4	28.9
United States	2011	1485	49.5	38.0	10.7	1.7	49.5	52.1	46.9
	2015	1477	51.2	37.7	10.2	1.0	51.2	54.6	47.8
International Avg (n=33)	2011	28503	31.8	43.4	23.5	1.3	31.8	33.9	29.8
	2015	31057	33.8	42.6	22.5	1.1	33.8	35.6	32.0
Ontario, Canada	2011	662	57.6	22.8	17.2	2.5	57.6	59.8	55.5
	2015	649	55.3	26.1	14.9	3.7	55.3	57.6	53.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_08C (S042228C): Chemistry / Applying Type: CR 1 Point
Label: Neck chain with most gold

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	57.2	25.3	16.5	1.0	57.2	59.8	54.3
	2015	573	55.1	19.5	23.4	1.9	55.1	55.6	54.5
Norway (8)	2011	541	33.8	44.1	21.8	0.2	33.8	35.6	32.2
	2015	685	35.9	32.3	31.2	0.6	35.9	40.0	31.4
Abu Dhabi, UAE	2011	623	24.9	57.7	16.4	1.0	24.9	25.9	24.1
	2015	687	28.0	51.7	19.1	1.2	28.0	35.4	21.2
Dubai, UAE	2011	795	34.8	45.5	18.6	1.0	34.8	39.2	30.7
	2015	884	47.5	38.6	13.5	0.3	47.5	50.4	44.6
Florida, US	2011	244	50.6	35.3	12.9	1.1	50.6	57.3	44.3
	2015	296	41.9	44.5	12.7	0.9	41.9	42.0	41.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_09 (S042126): Earth Science / Knowing Type: MC Key: A
Label: Gas increasing in atmosphere

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	85.6	85.6	7.5	4.1	0.7	1.9	0.3	84.0	87.2
	2015	1451	81.5	81.5	9.5	4.3	2.3	1.4	1.0	81.6	81.4
Bahrain	2011	654	46.5	46.5	34.5	11.2	4.2	1.8	1.8	48.0	44.9
	2015	704	48.4	48.4	31.4	12.1	6.3	1.4	0.4	49.0	47.9
Botswana	2011	761	42.9	42.9	25.7	18.6	3.6	4.8	4.3	43.1	42.7
	2015	835	56.6	56.6	17.1	13.8	4.5	2.5	5.5	56.7	56.4
Chile	2011	832	65.9	65.9	14.7	10.2	2.5	3.9	2.9	65.5	66.3
	2015	673	67.1	67.1	17.2	8.4	2.6	3.1	1.6	64.8	69.5
Chinese Taipei	2011	719	85.7	85.7	10.8	1.9	1.1	0.3	0.2	85.5	85.9
	2015	805	85.6	85.6	9.5	3.2	1.6	0.0	0.1	84.3	86.9
England	2011	545	86.3	86.3	6.9	2.1	1.3	1.4	2.0	87.1	85.5
	2015	694	82.5	82.5	9.6	3.2	2.8	1.5	0.5	82.7	82.2
Georgia	2011	649	48.7	48.7	26.3	11.7	4.5	6.6	2.1	52.7	45.6
	2015	575	41.6	41.6	36.8	10.6	6.1	2.7	2.2	38.9	44.0
Hong Kong SAR	2011	574	92.7	92.7	4.0	2.0	0.7	0.5	0.2	94.2	91.3
	2015	588	91.5	91.5	4.9	1.7	1.0	0.7	0.0	89.9	92.9
Hungary	2011	729	77.0	77.0	14.9	4.0	2.1	1.3	0.6	75.0	78.7
	2015	705	77.4	77.4	16.5	2.1	3.0	0.2	0.7	72.9	82.4
Iran, Islamic Rep. of	2011	869	56.1	56.1	18.8	12.0	9.3	2.4	1.3	57.2	55.1
	2015	884	57.6	57.6	18.2	12.1	7.5	1.8	2.8	58.7	56.5
Israel	2011	674	60.3	60.3	20.7	9.9	3.9	3.1	2.1	61.9	58.9
	2015	782	59.4	59.4	17.9	8.6	8.4	4.2	1.5	59.7	59.1
Italy	2011	555	66.3	66.3	22.3	5.7	2.7	2.4	0.6	66.2	66.3
	2015	627	71.5	71.5	17.4	6.3	1.8	2.7	0.4	70.3	72.6
Japan	2011	635	87.8	87.8	9.3	1.4	1.2	0.3	0.0	89.3	86.4
	2015	673	88.2	88.2	7.2	1.5	1.6	0.6	0.9	88.4	88.0
Jordan	2011	1091	54.9	54.9	27.6	9.5	4.7	1.9	1.4	59.3	50.6
	2015	1120	56.2	56.2	25.5	9.4	4.9	2.3	1.8	58.4	54.0
Kazakhstan	2011	625	62.0	62.0	24.2	7.5	2.6	2.2	1.6	62.9	60.9
	2015	688	73.9	73.9	18.3	3.1	2.3	2.0	0.4	72.0	75.9
Korea, Rep. of	2011	742	76.2	76.2	18.6	3.5	1.1	0.3	0.3	77.1	75.2
	2015	760	79.4	79.4	15.7	3.4	1.1	0.1	0.2	83.1	76.2
Lebanon	2011	553	55.7	55.7	23.6	8.4	3.9	5.1	3.4	53.5	58.0
	2015	550	60.6	60.6	20.4	6.4	3.4	6.5	2.7	60.5	60.6
Lithuania	2011	671	50.1	50.1	36.2	8.0	3.6	2.1	0.1	46.0	54.0
	2015	628	66.2	66.2	22.4	3.7	6.0	1.3	0.4	56.8	75.9

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_09 (S042126): Earth Science / Knowing Type: MC Key: A
Label: Gas increasing in atmosphere

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	62.6	62.6	19.9	9.2	4.3	1.5	2.5	65.8	59.2
	2015	1377	63.7	63.7	21.4	6.9	5.2	1.2	1.6	63.6	63.8
Morocco	2011	1324	51.1	51.1	11.1	24.6	4.1	4.6	4.5	53.0	49.4
	2015	1869	53.5	53.5	11.9	24.1	5.8	3.4	1.3	57.6	50.1
New Zealand	2011	763	80.8	80.8	8.4	5.1	1.9	3.5	0.3	79.0	82.3
	2015	1124	74.7	74.7	12.6	7.2	2.0	2.4	1.2	77.2	72.1
Oman	2011	1359	43.2	43.2	27.4	18.7	5.7	3.6	1.4	47.6	38.5
	2015	1264	50.7	50.7	26.7	15.0	4.1	2.7	0.8	53.5	48.0
Qatar	2011	627	54.0	54.0	22.5	15.8	5.3	1.5	0.8	53.8	54.2
	2015	767	59.0	59.0	26.9	6.5	4.2	1.6	1.8	61.6	56.3
Russian Federation	2011	709	66.9	66.9	21.5	5.5	2.1	2.7	1.4	64.0	69.6
	2015	681	74.4	74.4	18.5	3.0	2.2	0.8	1.2	74.3	74.4
Saudi Arabia	2011	0	.	.	.	.	.	.	.	.	.
	2015	524	51.0	51.0	27.2	14.0	6.2	1.1	0.6	51.5	50.4
Singapore	2011	845	82.1	82.1	12.3	3.1	2.0	0.2	0.2	81.8	82.5
	2015	873	84.1	84.1	10.8	2.4	2.0	0.2	0.5	84.1	84.0
Slovenia	2011	630	69.3	69.3	24.2	1.9	2.9	1.2	0.5	63.7	74.6
	2015	603	67.6	67.6	19.8	3.8	7.7	1.0	0.0	67.0	68.2
South Africa	2011	1689	53.6	53.6	14.0	20.1	5.0	3.2	4.1	52.8	54.1
	2015	1785	55.8	55.8	13.2	18.7	5.6	3.0	3.7	58.6	53.1
Sweden	2011	790	80.8	80.8	11.4	2.5	2.1	2.1	1.0	79.1	82.5
	2015	594	79.0	79.0	9.0	2.9	3.4	3.2	2.5	76.0	82.0
Thailand	2011	868	72.5	72.5	9.9	7.8	6.3	2.1	1.4	72.8	72.1
	2015	927	66.5	66.5	18.0	6.7	6.1	1.6	1.1	66.5	66.4
Turkey	2011	996	55.8	55.8	32.8	5.7	4.3	1.1	0.3	54.8	56.7
	2015	880	62.8	62.8	21.7	9.4	4.3	0.4	1.3	65.2	60.6
United Arab Emirates	2011	2005	58.0	58.0	24.2	11.0	3.9	1.9	1.0	61.8	54.4
	2015	2573	61.1	61.1	23.4	9.2	3.0	2.5	0.7	65.2	57.3
United States	2011	1485	73.6	73.6	14.1	5.8	3.5	0.9	2.1	71.5	75.7
	2015	1477	74.2	74.2	14.5	5.5	2.8	1.6	1.4	73.2	75.0
International Avg (n=33)	2011	27882	65.8	65.8	18.8	8.4	3.3	2.3	1.5	65.9	65.6
	2015	31060	67.4	67.4	17.9	7.6	4.0	1.9	1.3	67.4	67.4
Ontario, Canada	2011	662	73.7	73.7	11.7	6.7	2.4	2.7	2.8	70.6	76.4
	2015	648	74.2	74.2	11.2	5.7	3.1	1.7	4.1	73.8	74.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_09 (S042126): Earth Science / Knowing Type: MC Key: A
Label: Gas increasing in atmosphere

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	76.4	76.4	15.2	4.0	1.8	1.6	1.0	74.3	78.7
	2015	573	73.1	73.1	15.5	4.2	3.3	1.9	1.9	65.8	81.6
Norway (8)	2011	541	65.4	65.4	20.9	8.1	2.9	2.4	0.2	65.5	65.3
	2015	685	68.9	68.9	18.0	6.0	3.6	2.8	0.7	62.9	75.5
Abu Dhabi, UAE	2011	623	54.7	54.7	25.0	11.9	4.4	2.9	1.0	58.8	51.2
	2015	687	61.8	61.8	18.6	12.0	3.7	2.8	1.2	68.1	56.0
Dubai, UAE	2011	795	70.1	70.1	17.6	7.2	2.6	1.3	1.2	73.5	66.8
	2015	884	71.9	71.9	19.2	4.7	2.0	1.7	0.4	74.7	69.1
Florida, US	2011	244	65.5	65.5	19.9	8.6	2.9	1.6	1.4	68.4	62.9
	2015	296	74.1	74.1	16.7	5.1	1.9	1.3	0.9	68.9	79.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_10 (S042210): Physics / Knowing Type: MC Key: C
Label: Mass/volume of frozen water

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	36.2	10.4	38.4	36.2	13.2	1.4	0.3	40.6	31.7
	2015	1451	32.3	8.2	43.2	32.3	14.1	0.9	1.2	30.7	34.0
Bahrain	2011	654	30.2	10.3	39.5	30.2	15.3	2.5	2.2	28.8	31.6
	2015	705	37.7	8.0	38.8	37.7	13.3	1.4	0.9	38.3	37.1
Botswana	2011	761	23.4	13.0	36.8	23.4	17.7	3.6	5.5	24.3	22.4
	2015	840	27.2	17.4	32.4	27.2	13.4	3.5	6.1	29.4	24.7
Chile	2011	832	26.3	12.8	33.6	26.3	20.9	3.2	3.2	25.6	27.1
	2015	673	28.2	11.7	35.3	28.2	19.5	3.5	1.9	28.1	28.2
Chinese Taipei	2011	719	52.4	8.0	15.8	52.4	23.6	0.0	0.2	51.7	53.0
	2015	805	51.0	7.3	16.9	51.0	24.2	0.6	0.1	49.0	52.8
England	2011	545	35.8	5.6	38.6	35.8	14.4	3.2	2.3	33.9	37.8
	2015	694	31.4	7.3	45.9	31.4	13.6	1.0	0.8	31.8	31.1
Georgia	2011	648	30.6	15.9	28.7	30.6	17.7	4.9	2.1	26.8	33.6
	2015	575	37.6	13.7	29.4	37.6	15.6	1.5	2.2	36.1	39.0
Hong Kong SAR	2011	574	35.4	6.1	37.8	35.4	19.8	0.7	0.2	32.2	38.5
	2015	588	32.5	7.0	35.7	32.5	24.0	0.7	0.0	29.2	35.3
Hungary	2011	729	50.8	4.5	31.4	50.8	11.9	0.9	0.6	43.1	57.6
	2015	704	48.7	4.4	32.5	48.7	13.4	0.4	0.6	44.8	53.0
Iran, Islamic Rep. of	2011	869	41.4	15.5	24.1	41.4	15.6	1.8	1.6	37.7	44.7
	2015	884	44.4	13.8	22.7	44.4	14.1	2.1	2.9	47.7	41.3
Israel	2011	674	42.4	3.9	25.1	42.4	24.5	1.4	2.6	43.0	41.9
	2015	782	41.4	5.5	18.1	41.4	30.0	3.0	2.0	41.3	41.6
Italy	2011	555	42.0	4.7	39.4	42.0	10.3	2.9	0.8	42.5	41.4
	2015	627	36.8	6.1	41.3	36.8	13.4	1.8	0.5	36.1	37.5
Japan	2011	635	49.6	4.0	20.1	49.6	25.8	0.3	0.2	50.0	49.3
	2015	673	55.8	4.8	15.7	55.8	22.5	0.4	0.9	56.2	55.4
Jordan	2011	1091	48.4	8.5	27.6	48.4	12.1	1.9	1.5	48.7	48.1
	2015	1120	44.1	11.1	27.7	44.1	13.5	1.8	1.8	48.5	39.6
Kazakhstan	2011	625	37.5	9.3	32.5	37.5	17.1	1.7	1.9	34.7	40.5
	2015	688	54.2	6.8	23.3	54.2	13.4	1.9	0.4	53.6	54.8
Korea, Rep. of	2011	742	73.2	4.0	6.9	73.2	15.6	0.0	0.3	70.6	76.0
	2015	760	72.1	2.5	9.9	72.1	15.2	0.1	0.2	71.8	72.4
Lebanon	2011	552	35.6	14.7	26.3	35.6	13.9	6.1	3.4	37.8	33.1
	2015	550	37.5	11.7	28.8	37.5	13.4	5.9	2.7	38.0	36.8
Lithuania	2011	671	33.0	8.4	38.6	33.0	18.9	1.0	0.1	31.4	34.6
	2015	628	38.4	6.5	33.5	38.4	19.6	1.5	0.4	38.8	38.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_10 (S042210): Physics / Knowing Type: MC Key: C
Label: Mass/volume of frozen water

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	28.5	12.3	39.0	28.5	15.9	1.6	2.7	26.3	30.9
	2015	1377	36.4	7.0	30.5	36.4	22.3	1.9	1.9	32.8	39.8
Morocco	2011	1326	29.5	12.4	33.6	29.5	15.5	4.5	4.6	27.0	31.6
	2015	1871	39.1	9.2	35.9	39.1	11.9	2.6	1.3	37.1	40.8
New Zealand	2011	763	32.2	9.9	36.7	32.2	15.8	5.1	0.3	32.5	32.0
	2015	1124	30.7	9.9	41.4	30.7	14.3	2.4	1.2	29.4	32.1
Oman	2011	1359	33.7	12.8	34.7	33.7	12.8	4.6	1.4	37.1	30.0
	2015	1260	32.3	14.1	33.9	32.3	14.1	4.7	0.9	31.0	33.7
Qatar	2011	627	33.1	13.2	35.7	33.1	16.0	1.2	0.8	35.0	31.4
	2015	767	34.4	11.6	33.2	34.4	16.9	1.8	1.9	37.5	31.3
Russian Federation	2011	709	44.2	5.8	29.0	44.2	17.8	1.9	1.4	39.2	48.7
	2015	681	43.2	3.9	33.2	43.2	17.3	1.2	1.2	38.7	47.3
Saudi Arabia	2011	611	42.3	10.6	33.9	42.3	12.0	0.6	0.6	45.5	39.3
	2015	523	36.5	11.1	35.2	36.5	15.2	1.2	0.8	38.1	34.9
Singapore	2011	845	38.4	4.7	37.1	38.4	19.4	0.3	0.2	38.4	38.4
	2015	873	35.8	3.9	33.7	35.8	25.6	0.6	0.5	33.1	38.0
Slovenia	2011	630	39.8	7.4	31.6	39.8	19.8	0.9	0.5	29.9	49.0
	2015	603	39.2	4.8	36.7	39.2	18.5	0.8	0.0	33.1	45.3
South Africa	2011	1689	22.2	24.0	33.2	22.2	12.0	4.0	4.5	23.0	21.6
	2015	1785	23.6	21.6	34.6	23.6	13.0	3.2	4.1	23.5	23.6
Sweden	2011	790	36.0	13.9	30.3	36.0	15.5	3.0	1.3	33.9	38.0
	2015	594	35.4	10.4	34.0	35.4	13.5	3.1	3.7	35.0	35.5
Thailand	2011	868	29.2	13.9	38.0	29.2	14.0	3.2	1.6	29.8	28.5
	2015	927	29.1	15.4	37.6	29.1	15.3	1.4	1.2	27.2	31.3
Turkey	2011	996	34.7	7.4	33.8	34.7	21.4	2.4	0.3	34.6	34.9
	2015	880	36.4	7.4	33.6	36.4	20.9	0.5	1.3	36.3	36.4
United Arab Emirates	2011	2005	32.3	14.7	35.5	32.3	14.4	2.1	1.0	31.3	33.3
	2015	2573	33.6	9.1	37.0	33.6	17.1	2.3	0.9	31.9	35.3
United States	2011	1485	36.5	8.6	40.0	36.5	11.6	0.9	2.3	33.8	39.3
	2015	1477	37.6	8.2	38.9	37.6	12.0	1.4	1.9	35.4	39.7

International Avg (n=33)	2011	28493	37.5	10.0	32.2	37.5	16.4	2.2	1.6	36.4	38.5
	2015	31062	38.6	9.1	32.1	38.6	16.8	1.9	1.5	37.9	39.3

Ontario, Canada	2011	662	32.9	9.2	35.7	32.9	16.3	2.5	3.4	30.7	34.8
	2015	649	29.7	10.6	38.7	29.7	14.1	2.0	4.8	30.4	29.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_10 (S042210): Physics / Knowing Type: MC Key: C
Label: Mass/volume of frozen water

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	36.1	6.7	40.1	36.1	14.0	1.8	1.3	35.0	37.3
	2015	573	37.3	6.2	31.8	37.3	20.9	1.8	2.0	36.6	38.2
Norway (8)	2011	541	44.7	12.1	31.7	44.7	8.7	2.2	0.5	48.5	41.2
	2015	685	42.8	12.7	31.0	42.8	10.8	1.9	0.9	44.9	40.3
Abu Dhabi, UAE	2011	623	31.5	14.6	34.9	31.5	15.1	3.0	1.0	33.8	29.4
	2015	687	35.7	10.4	32.6	35.7	16.7	3.1	1.5	34.2	37.1
Dubai, UAE	2011	795	29.2	15.2	39.4	29.2	13.0	2.0	1.2	28.3	30.1
	2015	884	34.3	5.9	40.6	34.3	17.0	1.6	0.5	31.9	36.8
Florida, US	2011	244	36.8	6.6	44.0	36.8	11.2	0.0	1.4	38.3	35.4
	2015	296	43.2	6.3	33.8	43.2	14.0	1.1	1.6	46.7	39.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_l1 (S042176): Physics / Reasoning Type: CR 1 Point
Label: Flasks contain fresh & salt water

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	32.0	4.4	3.2	0.7	40.4	18.6	0.7	36.4	36.5	36.4
	2015	1451	28.6	5.1	1.9	0.5	46.2	16.3	1.3	33.8	35.3	32.1
Bahrain	2011	654	30.2	2.5	1.9	1.4	25.7	35.8	2.4	32.8	45.1	19.9
	2015	705	33.3	3.6	1.9	2.1	31.2	26.9	1.1	36.9	45.4	28.9
Botswana	2011	761	12.7	2.6	1.6	0.0	56.6	20.3	6.3	15.3	17.4	13.1
	2015	840	10.8	1.8	0.4	0.1	59.4	20.5	7.0	12.6	16.3	8.5
Chile	2011	832	5.8	2.4	1.4	0.0	33.0	53.5	3.8	8.2	8.2	8.3
	2015	673	8.9	1.1	2.1	0.1	30.1	55.5	2.1	10.0	9.8	10.3
Chinese Taipei	2011	719	22.5	4.2	3.8	20.5	25.4	23.3	0.2	26.7	26.3	27.1
	2015	805	24.8	2.5	2.0	18.3	32.9	19.4	0.1	27.3	27.6	26.9
England	2011	545	43.2	2.1	3.4	1.2	32.2	15.5	2.3	45.4	47.1	43.6
	2015	694	44.0	3.2	0.6	1.7	30.9	18.9	0.8	47.2	50.6	43.5
Georgia	2011	648	6.1	4.9	2.5	0.3	20.1	63.3	2.9	11.0	13.7	8.9
	2015	575	19.1	5.9	3.7	0.3	24.8	43.9	2.2	25.1	20.5	29.3
Hong Kong SAR	2011	574	40.8	6.0	1.6	0.3	28.0	23.1	0.2	46.8	50.6	43.1
	2015	588	41.2	4.8	1.3	1.5	32.4	18.7	0.0	46.0	45.6	46.4
Hungary	2011	729	32.9	9.6	1.1	1.4	24.1	30.2	0.6	42.6	45.9	39.6
	2015	704	20.7	10.6	1.1	0.7	37.1	29.0	0.7	31.4	31.2	31.5
Iran, Islamic Rep. of	2011	869	37.4	6.7	1.4	1.2	24.9	26.6	1.8	44.1	46.4	42.2
	2015	884	36.4	3.9	0.9	0.8	27.7	27.2	3.0	40.4	46.2	34.8
Israel	2011	674	31.0	3.2	1.5	7.5	26.9	27.3	2.6	34.2	37.9	31.0
	2015	782	33.0	2.7	2.1	2.6	26.0	31.6	2.1	35.6	34.1	37.3
Italy	2011	555	19.4	6.5	2.9	0.8	33.2	36.1	1.3	25.9	21.9	29.7
	2015	627	22.6	4.9	1.7	0.0	34.6	35.8	0.5	27.5	21.2	33.4
Japan	2011	635	38.3	4.2	8.0	2.5	33.6	13.2	0.2	42.5	47.3	37.9
	2015	673	48.7	3.3	1.5	2.4	33.5	9.7	0.9	52.0	56.1	47.4
Jordan	2011	1091	23.8	7.4	3.4	2.1	35.7	25.8	1.8	31.2	34.2	28.2
	2015	1120	26.9	1.3	2.0	0.0	39.2	28.8	1.8	28.2	32.3	23.9
Kazakhstan	2011	625	23.5	6.7	1.6	1.1	24.2	41.0	1.9	30.1	29.5	30.8
	2015	688	35.0	5.1	2.1	2.4	28.5	25.9	1.0	40.2	45.1	35.0
Korea, Rep. of	2011	742	22.5	23.7	5.3	2.3	33.3	12.7	0.3	46.1	51.3	40.8
	2015	760	26.0	12.2	0.7	4.0	45.2	11.7	0.2	38.2	39.9	36.7
Lebanon	2011	555	16.5	1.4	0.7	2.5	24.0	51.1	3.7	17.9	19.8	15.9
	2015	552	22.2	1.5	1.0	4.1	15.6	52.1	3.4	23.7	25.2	21.9
Lithuania	2011	671	24.5	4.2	1.2	1.4	40.1	28.2	0.4	28.6	26.5	30.7
	2015	628	29.1	3.2	0.7	1.6	32.1	32.9	0.4	32.3	33.3	31.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_l1 (S042176): Physics / Reasoning Type: CR 1 Point
Label: Flasks contain fresh & salt water

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	8.5	3.0	2.0	1.5	50.8	31.3	2.9	11.5	13.2	9.7
	2015	1377	10.8	3.9	4.0	1.2	50.0	27.1	3.0	14.7	14.6	14.8
Morocco	2011	1327	11.8	0.8	0.4	0.8	23.9	57.5	4.9	12.6	13.5	11.8
	2015	1871	15.5	0.3	0.3	0.0	31.1	51.3	1.4	15.9	17.1	14.8
New Zealand	2011	763	33.5	4.7	4.0	0.7	35.8	20.9	0.4	38.2	41.1	35.8
	2015	1124	38.3	4.0	0.9	0.3	36.3	18.8	1.4	42.3	44.9	39.7
Oman	2011	1359	21.3	2.6	1.4	0.7	33.3	38.8	1.8	24.0	32.9	14.4
	2015	1261	31.5	2.8	3.1	1.2	36.4	23.8	1.1	34.3	41.8	27.1
Qatar	2011	627	17.1	2.9	1.4	2.0	34.5	41.3	0.8	20.0	22.5	17.7
	2015	767	21.0	1.4	1.0	2.4	38.0	34.0	2.2	22.4	24.4	20.4
Russian Federation	2011	709	32.9	6.4	0.9	1.1	25.9	31.1	1.8	39.3	37.1	41.3
	2015	681	39.4	6.9	0.4	2.2	21.8	27.8	1.6	46.3	48.1	44.5
Saudi Arabia	2011	612	19.4	3.8	7.7	2.7	35.0	30.6	0.8	23.2	30.3	16.7
	2015	524	11.3	0.8	1.0	0.8	47.0	38.1	1.0	12.1	14.5	9.7
Singapore	2011	845	46.9	9.0	3.5	2.7	29.2	8.5	0.2	55.9	58.1	53.8
	2015	873	49.8	10.7	0.8	3.5	27.8	6.8	0.5	60.5	60.7	60.4
Slovenia	2011	630	45.1	4.7	1.3	4.1	25.1	19.2	0.5	49.8	48.3	51.2
	2015	603	41.1	3.1	0.7	2.2	32.8	20.1	0.0	44.3	49.5	38.9
South Africa	2011	1689	2.8	2.6	4.2	4.4	44.7	36.1	5.3	5.4	5.8	5.0
	2015	1785	7.2	1.6	1.8	0.2	56.4	28.5	4.3	8.8	9.0	8.7
Sweden	2011	790	18.7	6.6	3.6	7.6	27.3	34.3	1.8	25.4	27.4	23.4
	2015	594	22.5	5.1	1.6	5.8	28.2	32.3	4.5	27.6	27.9	27.5
Thailand	2011	868	22.8	1.8	2.4	0.4	33.2	37.4	1.9	24.6	26.5	22.5
	2015	927	23.3	1.3	0.7	1.0	41.2	31.0	1.4	24.6	29.9	18.1
Turkey	2011	996	11.8	16.1	3.9	11.7	28.2	27.7	0.6	27.9	31.9	23.7
	2015	880	12.7	16.5	8.2	13.4	27.0	20.7	1.5	29.2	37.3	21.9
United Arab Emirates	2011	2005	25.5	3.3	1.0	2.7	40.2	25.9	1.3	28.8	33.4	24.4
	2015	2572	31.4	3.2	1.8	2.9	33.9	25.7	1.2	34.6	41.7	27.7
United States	2011	1485	24.2	7.1	5.8	0.9	49.8	9.6	2.5	31.3	29.4	33.4
	2015	1477	33.9	5.4	6.2	0.8	42.7	8.7	2.3	39.3	36.3	42.0

International Avg (n=33)	2011	28498	24.4	5.4	2.7	2.8	32.7	30.2	1.8	29.8	32.0	27.6
	2015	31065	27.3	4.4	1.8	2.5	35.1	27.3	1.7	31.7	33.7	29.5

Ontario, Canada	2011	662	24.7	6.5	5.8	1.5	37.0	20.4	4.1	31.2	31.3	31.1
	2015	649	18.6	8.8	2.4	2.4	38.9	23.6	5.2	27.5	26.8	28.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_11 (S042176): Physics / Reasoning Type: CR 1 Point
Label: Flasks contain fresh & salt water

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	35.7	13.1	6.3	0.7	26.8	16.0	1.5	48.8	48.3	49.3
	2015	573	40.7	5.1	1.2	2.6	32.1	16.3	2.0	45.8	45.9	45.5
Norway (8)	2011	541	28.7	7.3	4.7	1.3	34.3	22.7	1.1	36.0	37.3	34.7
	2015	685	31.4	4.2	2.4	0.7	35.2	24.7	1.3	35.7	33.7	37.9
Abu Dhabi, UAE	2011	623	26.1	2.5	1.0	1.3	44.1	23.5	1.5	28.6	32.9	24.8
	2015	687	25.7	2.3	1.4	3.2	37.7	27.8	1.9	28.0	34.3	22.2
Dubai, UAE	2011	795	25.8	4.3	0.8	2.8	35.2	29.8	1.2	30.1	38.1	22.5
	2015	884	42.7	5.1	2.5	3.3	28.5	16.8	0.9	47.9	55.2	40.3
Florida, US	2011	244	23.8	7.3	5.4	2.1	44.0	16.0	1.4	31.1	33.1	29.2
	2015	296	27.9	5.2	5.3	1.1	44.6	13.6	2.3	33.1	36.7	29.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_12 (S042211): Physics / Applying Type: CR 1 Point
Label: Forces on student sitting on wall

COUNTRY	Year	N	10 %	11 %	12 %	19 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	6.3	1.1	59.5	1.9	0.3	8.8	19.1	2.2	0.9	68.8	66.3	71.3
	2015	1451	1.5	0.2	60.6	1.6	0.4	11.6	19.3	3.0	1.8	63.9	61.7	66.2
Bahrain	2011	654	1.5	1.1	27.2	7.9	0.7	26.4	30.6	2.1	2.5	37.6	42.8	32.3
	2015	706	3.7	1.4	36.4	3.7	1.2	11.2	40.5	0.6	1.3	45.2	48.1	42.5
Botswana	2011	761	1.5	1.4	26.1	0.3	8.4	19.6	32.8	2.8	7.1	29.3	29.1	29.5
	2015	840	2.6	1.3	10.5	0.9	3.3	16.8	53.0	3.9	7.8	15.2	14.9	15.6
Chile	2011	832	1.4	0.2	34.2	3.2	0.8	16.6	34.5	4.4	4.6	39.1	34.8	43.8
	2015	673	1.8	2.0	38.5	0.9	1.5	8.8	38.6	5.4	2.5	43.1	39.5	46.9
Chinese Taipei	2011	719	8.2	0.0	48.3	1.9	1.1	16.1	22.5	1.7	0.2	58.4	58.4	58.3
	2015	805	9.1	1.4	48.6	1.4	0.9	15.6	21.8	1.1	0.1	60.5	59.2	61.8
England	2011	545	5.3	0.2	69.6	0.3	0.4	6.5	13.4	1.9	2.3	75.5	73.9	77.2
	2015	694	7.9	2.1	67.0	2.9	0.2	3.8	13.9	1.5	0.8	79.9	81.3	78.3
Georgia	2011	649	3.3	1.6	31.7	3.5	3.3	9.6	38.1	5.5	3.3	40.2	34.8	44.4
	2015	575	3.9	0.0	35.9	2.8	1.1	13.6	37.4	2.3	2.9	42.7	35.1	49.6
Hong Kong SAR	2011	574	4.1	2.3	50.5	2.0	3.0	9.1	26.4	2.3	0.4	58.9	59.8	58.0
	2015	588	3.1	6.6	54.6	0.4	2.0	6.0	25.4	1.6	0.0	64.8	65.3	64.5
Hungary	2011	729	4.9	0.9	51.7	0.9	0.1	17.6	21.5	1.4	1.0	58.4	52.5	63.7
	2015	704	6.6	0.5	50.8	1.5	0.0	14.6	23.5	1.5	0.9	59.4	53.3	66.1
Iran, Islamic Rep. of	2011	869	2.5	1.0	26.5	2.7	0.8	29.6	32.8	1.8	2.2	32.7	28.8	36.0
	2015	884	1.8	0.6	29.5	0.9	0.1	38.8	22.8	1.9	3.7	32.7	32.9	32.5
Israel	2011	674	14.9	3.0	44.7	0.4	0.2	7.3	25.3	1.0	3.2	63.0	63.5	62.5
	2015	782	14.8	3.9	39.7	0.9	0.2	7.5	28.6	2.0	2.3	59.3	60.3	58.2
Italy	2011	555	1.1	0.5	41.1	2.9	0.1	14.3	33.6	4.9	1.4	45.6	40.7	50.3
	2015	627	2.0	0.1	47.6	3.5	0.6	14.8	25.1	4.9	1.2	53.2	42.3	63.5
Japan	2011	635	2.5	1.0	37.4	4.3	0.5	10.7	41.3	2.1	0.2	45.1	44.1	46.2
	2015	673	1.9	0.8	38.7	0.8	0.4	16.3	37.9	2.3	1.0	42.1	38.3	46.5
Jordan	2011	1091	4.3	0.5	19.0	6.3	2.5	18.6	44.7	2.2	1.9	30.1	30.2	30.1
	2015	1120	1.2	1.7	20.3	4.9	0.8	5.3	61.7	2.1	2.1	28.1	30.8	25.3
Kazakhstan	2011	625	11.3	6.2	17.2	7.0	1.4	5.3	39.5	10.1	2.1	41.7	44.0	39.2
	2015	688	20.0	1.4	32.7	5.5	0.2	0.6	36.1	2.4	1.2	59.5	63.6	55.2
Korea, Rep. of	2011	742	1.7	0.1	57.5	0.7	0.7	9.5	28.9	0.6	0.3	60.1	55.1	65.3
	2015	760	0.6	0.2	34.5	0.7	0.1	42.3	20.6	0.8	0.2	36.0	36.6	35.4
Lebanon	2011	555	8.8	0.8	21.3	1.2	2.8	19.6	37.8	4.1	3.7	32.0	31.3	32.7
	2015	552	6.7	3.3	23.6	0.3	1.6	17.7	39.0	4.2	3.5	34.0	38.1	29.2
Lithuania	2011	671	0.0	0.6	57.1	2.0	1.4	9.1	28.9	0.4	0.5	59.6	57.7	61.6
	2015	628	1.4	1.0	61.7	2.1	1.8	10.1	20.6	0.9	0.5	66.1	66.8	65.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_12 (S042211): Physics / Applying Type: CR 1 Point
Label: Forces on student sitting on wall

COUNTRY	Year	N	10 %	11 %	12 %	19 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	2.8	1.4	6.8	1.2	2.6	19.6	57.1	5.3	3.2	12.2	13.0	11.4
	2015	1377	2.3	0.4	22.8	0.8	3.8	12.7	48.1	5.0	4.0	26.4	25.3	27.4
Morocco	2011	1327	0.2	0.0	10.1	9.5	3.7	17.3	49.7	3.6	5.9	19.8	20.5	19.1
	2015	1867	0.2	0.1	19.7	4.8	0.3	24.2	45.2	3.3	2.2	24.8	21.1	27.8
New Zealand	2011	763	3.2	0.5	46.3	3.9	0.4	7.3	33.9	4.0	0.6	53.9	49.0	58.0
	2015	1124	4.2	0.5	53.6	2.2	0.7	10.6	24.0	2.8	1.5	60.4	56.9	64.0
Oman	2011	1359	2.2	2.3	22.2	5.7	2.4	20.4	39.0	3.2	2.5	32.4	41.5	22.9
	2015	1264	2.4	0.2	32.0	5.0	1.1	24.0	30.7	2.8	1.8	39.6	44.6	34.8
Qatar	2011	627	2.6	2.1	27.1	2.8	0.7	22.5	38.3	1.9	2.0	34.5	34.3	34.7
	2015	767	3.8	0.6	35.8	2.3	1.4	12.7	39.2	1.8	2.2	42.5	41.3	43.8
Russian Federation	2011	709	6.8	0.1	50.2	2.0	0.5	1.7	33.5	3.1	2.1	59.1	53.0	64.8
	2015	681	7.2	0.1	56.2	2.0	0.5	9.2	21.0	2.0	1.6	65.6	61.8	69.1
Saudi Arabia	2011	612	10.0	1.2	12.5	9.1	1.2	35.5	27.9	1.9	0.8	32.7	33.7	31.8
	2015	523	3.2	1.0	19.3	3.5	0.8	34.3	36.0	0.5	1.5	27.0	34.8	18.7
Singapore	2011	845	1.2	0.2	55.4	0.0	1.4	14.2	26.7	0.6	0.3	56.8	58.0	55.8
	2015	873	3.3	0.5	62.9	0.1	2.8	11.3	18.0	0.4	0.7	66.8	63.8	69.4
Slovenia	2011	630	17.2	8.0	43.9	1.5	0.0	10.2	18.5	0.3	0.5	70.5	67.6	73.3
	2015	603	26.5	2.7	45.1	0.0	0.2	0.1	25.1	0.2	0.1	74.3	75.1	73.5
South Africa	2011	1689	2.7	0.9	6.5	4.5	28.4	11.7	37.9	1.9	5.6	14.6	13.0	16.0
	2015	1785	3.7	1.2	11.4	0.1	1.5	16.3	58.6	2.0	5.2	16.4	15.7	17.1
Sweden	2011	790	2.4	0.3	42.4	3.2	0.3	14.3	30.2	4.9	2.0	48.3	46.1	50.5
	2015	594	5.2	0.2	46.4	0.9	0.2	13.9	22.5	5.6	5.1	52.7	52.5	53.1
Thailand	2011	868	0.4	0.1	16.9	8.1	1.0	25.1	29.2	16.7	2.6	25.5	26.8	24.0
	2015	927	1.2	0.3	18.7	8.6	0.7	26.7	34.0	8.0	1.7	28.8	32.1	24.9
Turkey	2011	996	1.5	1.2	28.4	2.7	0.2	24.0	36.7	4.6	0.6	33.8	35.2	32.4
	2015	880	1.5	1.7	36.8	3.9	0.2	28.7	24.0	1.5	1.8	43.8	51.5	36.9
United Arab Emirates	2011	2005	2.1	0.3	35.3	3.5	2.9	20.8	31.2	2.0	1.9	41.2	41.6	40.7
	2015	2573	1.0	0.4	42.0	3.7	1.6	19.0	28.8	2.1	1.5	47.0	47.1	46.9
United States	2011	1485	3.5	1.4	60.0	1.6	0.2	13.8	15.6	1.1	2.9	66.4	65.3	67.5
	2015	1477	5.4	1.2	62.5	1.5	0.5	14.5	10.3	1.4	2.7	70.6	69.8	71.2
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International Avg (n=33)	2011	28499	4.3	1.3	35.9	3.3	2.3	15.5	32.0	3.2	2.2	44.8	43.8	45.6
	2015	31065	4.9	1.2	39.3	2.3	1.0	15.6	31.3	2.5	2.0	47.7	47.3	47.9
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Ontario, Canada	2011	662	2.5	0.8	66.8	3.4	0.9	4.5	14.4	1.9	4.7	73.6	73.0	74.2
	2015	649	3.9	1.2	64.7	1.7	0.3	7.8	10.5	2.9	7.0	71.5	67.4	75.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_12 (S042211): Physics / Applying Type: CR 1 Point
Label: Forces on student sitting on wall

COUNTRY	Year	N	10 %	11 %	12 %	19 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	2.1	1.1	39.5	4.6	1.1	19.7	26.4	3.5	1.9	47.3	46.0	48.8
	2015	573	1.4	1.0	38.8	2.9	0.2	26.1	21.6	5.4	2.5	44.1	41.2	47.4
Norway (8)	2011	541	1.0	0.0	36.0	5.4	0.1	10.2	40.7	5.5	1.1	42.4	40.2	44.4
	2015	685	0.4	0.2	39.3	4.4	0.1	11.9	32.9	8.4	2.4	44.3	40.7	48.3
Abu Dhabi, UAE	2011	623	1.7	0.2	36.1	3.6	1.9	18.4	33.9	1.8	2.3	41.6	40.0	42.9
	2015	687	0.5	0.6	35.9	5.2	0.3	20.5	32.8	1.8	2.4	42.2	42.4	42.0
Dubai, UAE	2011	795	4.0	0.3	38.6	3.2	2.6	20.7	27.3	1.7	1.5	46.1	49.0	43.4
	2015	884	2.4	0.3	53.9	2.6	3.6	12.1	22.0	1.7	1.3	59.2	58.3	60.2
Florida, US	2011	244	5.0	1.4	62.2	2.4	0.6	11.9	15.1	0.0	1.4	71.0	71.1	70.9
	2015	296	3.8	0.3	63.4	2.4	0.0	12.9	14.1	0.2	2.9	69.9	70.0	69.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_l3 (S042135): Earth Science / Knowing Type: CR 1 Point
Label: Water cycle processes

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	47.9	24.3	12.7	10.8	3.3	1.0	47.9	46.9	49.0
	2015	1451	43.6	26.2	13.2	11.2	3.2	2.5	43.6	45.0	42.1
Bahrain	2011	654	58.2	17.8	9.9	4.2	7.1	2.8	58.2	66.9	49.1
	2015	706	64.8	19.2	5.3	7.0	2.3	1.3	64.8	73.4	56.7
Botswana	2011	761	23.4	24.8	12.8	23.4	8.0	7.6	23.4	23.5	23.2
	2015	840	20.8	18.4	17.1	29.5	4.7	9.5	20.8	19.4	22.5
Chile	2011	832	60.2	15.5	7.5	4.3	7.4	5.1	60.2	61.9	58.3
	2015	673	49.8	19.2	7.9	7.6	12.8	2.8	49.8	51.2	48.3
Chinese Taipei	2011	719	86.2	7.3	2.0	1.5	2.6	0.4	86.2	86.6	85.8
	2015	805	88.9	6.2	1.7	1.4	1.8	0.1	88.9	88.3	89.5
England	2011	545	55.7	22.8	6.0	10.1	3.1	2.3	55.7	53.4	58.1
	2015	694	56.7	21.2	9.1	9.1	3.2	0.8	56.7	58.7	54.6
Georgia	2011	649	16.7	16.3	11.4	15.1	37.0	3.5	16.7	17.6	15.9
	2015	575	32.4	22.1	12.3	15.4	14.7	3.1	32.4	31.5	33.2
Hong Kong SAR	2011	574	82.6	8.9	2.0	3.5	2.6	0.4	82.6	83.0	82.2
	2015	588	84.5	8.6	2.4	3.1	1.3	0.0	84.5	82.9	85.9
Hungary	2011	729	35.4	52.1	6.8	2.5	2.2	1.0	35.4	38.8	32.4
	2015	704	38.9	49.5	5.5	2.0	3.0	0.9	38.9	38.4	39.5
Iran, Islamic Rep. of	2011	869	59.5	18.4	6.5	6.3	6.6	2.8	59.5	59.6	59.3
	2015	884	58.0	17.2	6.5	7.3	7.2	3.8	58.0	59.4	56.6
Israel	2011	674	70.9	12.0	3.9	3.1	6.9	3.2	70.9	73.0	69.0
	2015	782	65.6	16.3	3.4	5.0	7.3	2.5	65.6	68.0	62.9
Italy	2011	555	70.4	12.2	6.1	3.2	6.9	1.4	70.4	68.2	72.4
	2015	627	74.7	12.2	4.6	2.3	4.7	1.5	74.7	71.2	78.0
Japan	2011	635	77.7	14.0	3.2	2.7	2.3	0.2	77.7	76.7	78.6
	2015	673	78.5	13.3	4.1	1.3	1.5	1.3	78.5	78.2	78.9
Jordan	2011	1091	61.4	14.7	5.8	10.1	6.0	1.9	61.4	67.2	55.6
	2015	1120	56.6	15.3	7.0	12.9	5.5	2.7	56.6	61.1	51.9
Kazakhstan	2011	625	28.9	19.4	6.8	17.1	25.6	2.1	28.9	26.6	31.4
	2015	688	34.5	25.4	5.8	21.2	11.6	1.6	34.5	34.3	34.7
Korea, Rep. of	2011	742	28.9	54.7	10.2	5.0	0.8	0.3	28.9	22.6	35.6
	2015	760	56.5	34.1	4.8	3.4	0.7	0.4	56.5	51.7	60.8
Lebanon	2011	555	15.7	26.4	19.6	16.6	18.0	3.7	15.7	15.7	15.6
	2015	552	23.7	14.5	1.7	38.8	17.9	3.5	23.7	28.1	18.6
Lithuania	2011	671	67.4	17.9	6.5	5.0	2.7	0.5	67.4	65.6	69.2
	2015	628	66.1	19.6	7.8	3.2	2.8	0.5	66.1	65.7	66.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_l3 (S042135): Earth Science / Knowing Type: CR 1 Point
Label: Water cycle processes

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	23.1	33.2	16.5	16.3	7.1	3.7	23.1	25.0	21.0
	2015	1377	36.3	28.9	14.7	12.6	3.2	4.3	36.3	36.0	36.5
Morocco	2011	1327	37.5	26.2	9.8	12.6	7.7	6.3	37.5	37.2	37.7
	2015	1859	45.9	20.3	9.8	14.8	6.8	2.4	45.9	44.4	47.2
New Zealand	2011	763	42.0	30.4	9.8	11.4	5.5	0.9	42.0	43.1	41.2
	2015	1124	50.0	25.7	9.3	9.9	3.3	1.8	50.0	54.7	45.2
Oman	2011	1359	54.9	14.5	8.2	11.9	7.7	2.7	54.9	65.4	43.8
	2015	1262	62.4	16.8	7.6	5.9	5.3	1.9	62.4	66.3	58.7
Qatar	2011	627	39.6	19.7	13.9	16.2	8.4	2.1	39.6	43.9	35.6
	2015	767	48.2	24.3	7.0	14.4	3.6	2.4	48.2	50.7	45.6
Russian Federation	2011	709	74.9	9.2	3.2	1.8	8.6	2.4	74.9	75.3	74.4
	2015	681	78.8	8.2	3.7	2.0	5.7	1.6	78.8	80.4	77.3
Saudi Arabia	2011	612	61.9	22.1	5.4	4.3	5.5	0.8	61.9	65.2	58.9
	2015	524	53.4	22.8	9.4	10.2	2.7	1.5	53.4	62.0	44.3
Singapore	2011	845	63.7	24.8	5.7	4.6	0.9	0.4	63.7	66.4	61.1
	2015	873	65.6	22.9	6.3	3.9	0.6	0.7	65.6	69.6	62.1
Slovenia	2011	630	81.1	10.3	4.2	2.8	1.1	0.5	81.1	80.8	81.5
	2015	603	83.8	6.5	1.9	4.3	3.4	0.1	83.8	85.0	82.6
South Africa	2011	1689	9.1	17.1	19.2	40.0	8.8	5.8	9.1	7.7	10.3
	2015	1785	12.7	21.3	24.1	32.5	3.8	5.5	12.7	14.8	10.6
Sweden	2011	790	56.9	20.1	6.9	6.3	7.8	2.0	56.9	57.0	56.8
	2015	594	56.6	17.9	5.3	6.4	7.7	6.1	56.6	58.9	54.7
Thailand	2011	868	58.3	20.7	3.6	3.8	10.8	2.9	58.3	60.6	55.6
	2015	927	55.5	24.9	5.6	4.0	8.2	1.9	55.5	60.1	49.9
Turkey	2011	996	66.9	14.7	6.4	5.5	5.9	0.6	66.9	70.4	63.2
	2015	880	63.5	18.7	6.1	5.4	4.3	2.0	63.5	65.4	61.7
United Arab Emirates	2011	2005	60.8	20.4	7.4	6.3	3.1	2.0	60.8	66.8	55.0
	2015	2573	60.4	18.0	9.1	6.5	4.3	1.6	60.4	67.3	53.8
United States	2011	1485	59.2	19.6	10.3	5.2	2.6	3.2	59.2	57.2	61.2
	2015	1477	63.9	18.2	7.6	5.1	1.9	3.3	63.9	63.0	64.6

International Avg (n=33)	2011	28499	52.6	20.7	8.2	8.9	7.3	2.3	52.6	53.8	51.5
	2015	31056	55.5	19.8	7.5	9.7	5.2	2.3	55.5	57.1	53.8

Ontario, Canada	2011	662	62.9	14.5	7.1	7.1	3.2	5.2	62.9	64.6	61.4
	2015	649	54.3	20.1	10.1	3.9	3.9	7.7	54.3	52.2	56.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_13 (S042135): Earth Science / Knowing Type: CR 1 Point
Label: Water cycle processes

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	69.9	16.8	7.1	2.5	1.6	2.0	69.9	69.4	70.6
	2015	573	69.7	15.1	6.4	4.0	2.0	2.8	69.7	66.8	73.0
Norway (8)	2011	541	60.4	16.3	4.9	6.6	9.9	1.9	60.4	64.4	56.7
	2015	685	62.4	13.9	5.8	6.5	8.4	3.0	62.4	60.3	64.8
Abu Dhabi, UAE	2011	623	60.8	20.4	6.3	6.7	3.4	2.5	60.8	65.4	56.7
	2015	687	55.7	17.9	10.0	8.1	5.9	2.4	55.7	65.6	46.4
Dubai, UAE	2011	795	56.0	21.6	9.2	7.5	4.2	1.6	56.0	62.2	50.1
	2015	884	67.3	16.8	7.0	5.1	2.4	1.5	67.3	69.8	64.7
Florida, US	2011	244	63.7	18.4	7.7	5.4	3.4	1.4	63.7	63.1	64.3
	2015	296	55.6	26.6	6.7	4.4	3.7	2.9	55.6	52.4	58.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S05_14 (S042257): Earth Science / Knowing Type: MC Key: B
Label: What causes the phases of the moon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1092	46.4	14.6	46.4	23.2	13.2	1.3	1.3	42.4	50.5
	2015	1451	43.6	17.6	43.6	22.9	9.8	3.1	2.9	40.3	47.0
Bahrain	2011	654	46.8	16.9	46.8	14.5	17.0	1.7	3.0	49.5	44.0
	2015	706	53.6	14.2	53.6	17.0	12.1	1.8	1.3	55.8	51.6
Botswana	2011	761	22.0	26.7	22.0	15.8	21.4	2.3	11.8	22.4	21.7
	2015	840	23.9	28.1	23.9	15.9	18.5	1.6	12.1	22.1	25.8
Chile	2011	832	38.4	17.0	38.4	22.4	14.6	1.5	6.2	35.2	41.9
	2015	673	43.5	16.0	43.5	21.7	13.2	1.9	3.7	37.3	50.0
Chinese Taipei	2011	719	42.9	13.5	42.9	32.5	9.7	0.5	0.9	39.8	45.6
	2015	805	43.9	11.1	43.9	34.2	10.3	0.4	0.1	38.2	49.5
England	2011	545	52.8	13.2	52.8	20.4	6.9	4.2	2.5	49.8	55.8
	2015	694	45.7	19.1	45.7	26.3	5.7	1.8	1.3	44.4	47.1
Georgia	2011	649	41.9	15.9	41.9	19.6	15.3	2.0	5.3	47.3	37.6
	2015	575	41.9	16.3	41.9	20.9	13.9	2.7	4.3	40.4	43.2
Hong Kong SAR	2011	574	61.7	10.5	61.7	20.1	6.9	0.4	0.4	61.6	61.9
	2015	588	57.7	9.4	57.7	27.3	5.0	0.5	0.0	51.2	63.5
Hungary	2011	729	34.1	18.1	34.1	31.8	13.3	1.3	1.4	31.2	36.7
	2015	705	42.0	19.2	42.0	27.6	8.9	1.2	1.0	39.9	44.3
Iran, Islamic Rep. of	2011	869	46.7	10.5	46.7	16.7	21.4	0.9	3.7	41.9	50.9
	2015	884	48.3	11.7	48.3	16.1	17.0	1.6	5.2	47.7	48.9
Israel	2011	674	45.6	17.2	45.6	18.3	13.5	0.8	4.5	44.6	46.5
	2015	782	48.4	19.1	48.4	16.6	11.9	0.9	3.2	49.9	46.7
Italy	2011	555	41.9	17.1	41.9	19.0	17.9	2.4	1.7	42.2	41.7
	2015	627	41.9	16.4	41.9	17.8	16.4	5.3	2.2	43.6	40.4
Japan	2011	635	38.5	13.4	38.5	33.1	13.6	1.1	0.3	35.6	41.3
	2015	673	44.4	16.0	44.4	28.2	9.5	0.4	1.5	43.7	45.2
Jordan	2011	1091	46.4	15.7	46.4	16.8	16.8	1.7	2.5	50.1	42.8
	2015	1120	41.3	17.5	41.3	20.4	16.0	1.8	3.0	40.9	41.7
Kazakhstan	2011	625	52.8	10.7	52.8	23.1	9.5	1.3	2.8	53.0	52.5
	2015	688	60.3	8.5	60.3	22.0	5.6	1.3	2.2	61.1	59.4
Korea, Rep. of	2011	742	67.3	5.2	67.3	21.1	5.7	0.3	0.4	62.3	72.5
	2015	760	65.9	4.5	65.9	23.1	5.6	0.5	0.4	62.3	69.0
Lebanon	2011	540	32.3	18.9	32.3	18.4	18.0	6.2	6.1	29.0	35.9
	2015	539	33.3	18.7	33.3	21.4	11.3	10.0	5.4	34.9	31.4
Lithuania	2011	671	47.3	15.1	47.3	28.8	6.5	1.6	0.7	49.0	45.6
	2015	628	49.2	11.4	49.2	31.6	6.5	0.7	0.5	48.8	49.8

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S05_14 (S042257): Earth Science / Knowing Type: MC Key: B
Label: What causes the phases of the moon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	41.5	17.1	41.5	21.9	14.5	0.6	4.5	40.3	42.8
	2015	1377	56.2	11.2	56.2	16.6	9.9	1.1	5.0	53.9	58.4
Morocco	2011	1323	34.7	17.3	34.7	20.7	17.2	3.2	7.0	34.7	34.6
	2015	1859	43.0	18.7	43.0	18.4	14.7	2.2	3.0	43.6	42.5
New Zealand	2011	763	48.0	18.4	48.0	21.8	8.4	2.0	1.5	43.7	51.5
	2015	1124	52.1	16.6	52.1	19.7	7.2	2.2	2.1	51.3	52.9
Oman	2011	1359	42.8	18.3	42.8	17.4	16.2	1.5	3.8	43.3	42.2
	2015	1253	47.8	17.2	47.8	14.9	15.4	1.9	2.9	50.5	45.3
Qatar	2011	627	47.2	17.6	47.2	20.9	11.2	0.4	2.7	50.7	44.0
	2015	767	59.5	13.0	59.5	14.6	9.0	1.2	2.7	56.7	62.4
Russian Federation	2011	709	58.7	7.0	58.7	23.0	5.6	2.3	3.4	58.4	59.0
	2015	681	61.2	8.7	61.2	21.6	3.3	3.0	2.1	58.4	63.8
Saudi Arabia	2011	612	45.1	12.5	45.1	18.0	22.4	0.9	1.2	43.5	46.5
	2015	521	42.7	18.4	42.7	18.5	18.2	0.7	1.4	46.6	38.6
Singapore	2011	845	70.2	6.9	70.2	16.0	6.0	0.4	0.6	68.5	71.8
	2015	873	42.6	16.4	42.6	25.5	13.8	0.5	1.2	37.0	47.4
Slovenia	2011	630	56.0	9.4	56.0	22.5	10.1	1.5	0.5	60.7	51.6
	2015	603	61.6	12.5	61.6	16.5	7.1	1.5	0.9	61.9	61.2
South Africa	2011	1689	28.8	26.6	28.8	14.7	20.3	2.4	7.4	27.0	30.3
	2015	1785	28.9	23.6	28.9	17.1	19.9	3.7	6.7	30.0	27.9
Sweden	2011	790	46.4	17.0	46.4	24.0	7.0	3.0	2.5	45.8	47.0
	2015	594	47.7	15.7	47.7	20.9	5.4	3.2	7.1	40.3	54.4
Thailand	2011	868	48.3	19.4	48.3	15.5	12.3	1.4	3.1	45.9	51.1
	2015	927	49.2	18.2	49.2	15.3	13.3	1.5	2.6	46.5	52.4
Turkey	2011	996	55.6	16.8	55.6	13.8	11.8	1.1	0.9	54.9	56.3
	2015	880	52.5	18.5	52.5	14.4	11.6	0.5	2.5	52.5	52.5
United Arab Emirates	2011	2005	49.8	14.9	49.8	16.4	15.2	1.4	2.3	53.9	45.8
	2015	2573	51.5	14.2	51.5	19.8	10.8	1.8	1.9	53.6	49.4
United States	2011	1485	52.1	14.2	52.1	20.9	8.2	1.2	3.5	48.2	56.2
	2015	1477	56.9	13.6	56.9	18.9	5.3	1.5	3.8	51.8	61.5

International Avg (n=33)	2011	28480	46.4	15.3	46.4	20.7	13.0	1.7	3.0	45.7	47.2
	2015	31032	47.9	15.5	47.9	20.7	11.0	1.9	2.9	46.6	49.2

Ontario, Canada	2011	662	45.8	16.8	45.8	21.9	8.1	1.4	6.1	40.7	50.4
	2015	649	38.6	20.3	38.6	21.8	9.0	1.2	9.1	36.5	40.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S05_14 (S042257): Earth Science / Knowing Type: MC Key: B
Label: What causes the phases of the moon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	56.9	12.8	56.9	19.1	7.1	1.7	2.5	55.6	58.3
	2015	571	61.0	10.1	61.0	16.2	8.0	1.1	3.6	58.0	64.4
Norway (8)	2011	541	51.9	10.5	51.9	26.5	4.2	3.8	3.1	48.0	55.5
	2015	685	56.8	13.4	56.8	19.9	3.8	2.6	3.4	50.7	63.6
Abu Dhabi, UAE	2011	623	49.4	15.0	49.4	15.6	16.2	1.1	2.7	52.6	46.5
	2015	687	47.5	14.8	47.5	21.4	11.7	1.8	2.9	47.3	47.6
Dubai, UAE	2011	795	46.7	15.8	46.7	19.2	14.9	1.4	2.0	48.2	45.2
	2015	884	60.4	12.2	60.4	15.0	9.5	1.0	1.8	62.7	58.0
Florida, US	2011	244	54.8	12.0	54.8	21.6	9.0	0.9	1.7	56.2	53.5
	2015	296	56.8	12.8	56.8	21.0	5.7	0.7	2.9	54.3	59.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_01 (S052003): Biology / Knowing Type: MC Key: B
Label: Annual growth rings

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	76.8	6.5	76.8	8.9	3.2	4.6	0.0	73.0	80.7
	2015	1468	71.1	8.0	71.1	11.9	4.0	4.8	0.2	70.7	71.6
Bahrain	2011	654	65.6	9.5	65.6	10.5	11.2	2.7	0.5	69.6	61.4
	2015	701	49.8	10.7	49.8	25.3	11.8	2.4	0.0	52.7	47.2
Botswana	2011	764	29.7	23.0	29.7	30.9	14.9	1.5	0.0	28.1	31.3
	2015	847	35.5	20.3	35.5	23.0	19.1	2.1	0.0	33.3	37.9
Chile	2011	828	62.4	8.0	62.4	14.3	12.6	2.4	0.3	60.5	64.5
	2015	676	59.7	11.6	59.7	11.4	13.8	3.4	0.2	62.5	56.7
Chinese Taipei	2011	718	96.7	0.5	96.7	0.6	2.0	0.1	0.1	98.9	94.8
	2015	821	97.7	0.7	97.7	0.0	1.4	0.2	0.1	97.3	98.1
England	2011	542	69.4	8.1	69.4	8.6	5.7	7.9	0.3	68.6	70.2
	2015	692	67.8	7.0	67.8	11.1	7.4	6.3	0.3	68.7	66.8
Georgia	2011	647	70.0	15.8	70.0	6.8	3.9	3.5	0.0	70.1	69.9
	2015	572	74.4	15.6	74.4	4.2	3.2	2.2	0.4	70.8	78.0
Hong Kong SAR	2011	576	86.3	2.0	86.3	2.6	8.2	0.7	0.2	88.7	83.9
	2015	597	84.8	2.8	84.8	1.6	9.9	0.9	0.0	86.5	83.3
Hungary	2011	730	79.0	3.0	79.0	11.0	1.0	5.9	0.0	76.1	81.5
	2015	704	82.3	1.0	82.3	9.0	2.2	5.5	0.0	80.8	83.9
Iran, Islamic Rep. of	2011	875	67.8	9.0	67.8	11.4	9.4	2.4	0.0	69.0	66.8
	2015	885	61.3	10.4	61.3	11.5	13.3	3.4	0.3	60.7	61.8
Israel	2011	665	59.2	9.8	59.2	8.2	12.1	10.1	0.6	62.6	56.1
	2015	787	57.5	9.8	57.5	10.0	11.7	11.0	0.1	57.0	58.0
Italy	2011	561	77.2	4.6	77.2	9.7	5.1	3.5	0.0	72.2	81.9
	2015	627	75.0	3.5	75.0	7.9	6.3	7.3	0.0	71.2	78.6
Japan	2011	628	92.0	1.4	92.0	1.1	3.9	1.7	0.0	94.3	89.6
	2015	681	91.5	1.3	91.5	0.7	4.9	1.5	0.2	93.3	89.6
Jordan	2011	1092	70.0	12.9	70.0	10.0	4.7	2.5	0.0	74.2	65.9
	2015	1134	60.6	18.7	60.6	12.0	6.9	1.8	0.0	62.1	59.0
Kazakhstan	2011	617	76.5	6.2	76.5	12.5	2.1	2.6	0.1	75.7	77.2
	2015	697	75.6	5.3	75.6	16.1	2.1	0.6	0.2	73.9	77.6
Korea, Rep. of	2011	741	99.0	0.1	99.0	0.1	0.5	0.1	0.1	99.5	98.4
	2015	757	98.2	0.3	98.2	0.3	1.2	0.0	0.0	98.4	98.1
Lebanon	2011	542	46.0	15.4	46.0	20.1	9.7	8.7	0.0	48.6	42.7
	2015	539	51.5	12.5	51.5	11.5	7.4	15.0	2.0	51.6	51.4
Lithuania	2011	673	94.5	1.3	94.5	0.3	1.3	2.6	0.0	96.1	93.3
	2015	621	91.7	2.3	91.7	2.7	0.8	2.6	0.0	91.1	92.3

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_01 (S052003): Biology / Knowing Type: MC Key: B
Label: Annual growth rings

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	54.8	21.9	54.8	9.0	11.3	2.3	0.7	58.3	51.6
	2015	1377	50.5	21.7	50.5	9.3	16.7	1.6	0.1	50.6	50.4
Morocco	2011	1334	56.3	13.9	56.3	10.5	14.4	4.7	0.2	55.7	56.8
	2015	1882	54.9	13.7	54.9	11.8	14.0	5.6	0.1	58.7	51.7
New Zealand	2011	755	69.4	7.9	69.4	9.7	4.2	8.6	0.2	67.3	71.3
	2015	1122	68.3	7.3	68.3	12.6	6.0	5.7	0.1	68.5	68.1
Oman	2011	1363	53.6	15.7	53.6	13.8	13.6	3.2	0.1	52.4	54.7
	2015	1254	55.2	14.9	55.2	13.6	14.4	1.9	0.0	54.5	55.9
Qatar	2011	624	50.3	18.2	50.3	15.8	12.7	3.0	0.0	54.6	46.3
	2015	769	49.6	13.4	49.6	16.0	16.2	4.6	0.3	50.9	48.3
Russian Federation	2011	709	82.7	5.2	82.7	9.3	1.4	1.1	0.3	84.3	81.1
	2015	677	84.7	4.0	84.7	8.2	2.0	0.9	0.1	82.7	86.5
Saudi Arabia	2011	626	50.6	16.0	50.6	16.8	15.1	1.6	0.0	50.7	50.4
	2015	529	55.2	11.9	55.2	19.4	12.7	0.8	0.0	61.9	48.3
Singapore	2011	850	65.3	15.6	65.3	10.4	8.1	0.5	0.1	65.9	64.8
	2015	872	71.3	12.5	71.3	8.3	7.6	0.2	0.0	73.9	68.9
Slovenia	2011	633	90.3	1.9	90.3	1.1	1.7	4.9	0.0	88.2	92.1
	2015	604	88.4	0.9	88.4	0.4	3.2	7.2	0.0	88.5	88.2
South Africa	2011	1704	43.5	19.7	43.5	19.3	11.2	5.8	0.4	45.5	41.7
	2015	1791	43.1	19.6	43.1	24.6	9.0	3.4	0.3	44.4	41.8
Sweden	2011	797	80.4	4.6	80.4	2.4	1.0	11.5	0.1	78.8	82.1
	2015	585	79.3	3.3	79.3	3.5	2.0	11.8	0.2	85.4	74.7
Thailand	2011	859	52.7	18.1	52.7	14.2	12.4	2.5	0.2	50.0	55.9
	2015	918	51.5	14.5	51.5	15.0	17.6	1.4	0.0	54.0	48.5
Turkey	2011	990	62.8	11.4	62.8	11.1	13.4	1.2	0.1	64.8	60.5
	2015	869	70.9	7.3	70.9	10.7	11.1	0.0	0.0	74.3	67.8
United Arab Emirates	2011	1999	56.3	14.1	56.3	15.9	10.8	2.6	0.1	58.3	54.4
	2015	2583	53.7	13.1	53.7	18.1	12.9	2.2	0.0	51.9	55.4
United States	2011	1490	81.6	6.1	81.6	7.8	3.5	0.8	0.2	80.3	82.9
	2015	1475	75.3	6.2	75.3	10.6	5.3	2.1	0.5	76.9	73.6

International Avg (n=33)	2011	28497	68.7	9.9	68.7	10.1	7.5	3.6	0.1	69.1	68.4
	2015	31113	67.8	9.3	67.8	10.7	8.4	3.6	0.2	68.5	67.2

Ontario, Canada	2011	682	79.2	6.2	79.2	7.8	4.6	1.9	0.3	79.9	78.5
	2015	622	76.8	7.0	76.8	10.3	5.0	0.8	0.0	78.2	75.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_01 (S052003): Biology / Knowing Type: MC Key: B
Label: Annual growth rings

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	78.6	6.2	78.6	4.6	4.5	5.8	0.3	78.7	78.4
	2015	538	83.8	3.5	83.8	4.4	7.0	0.3	1.0	84.2	83.4
Norway (8)	2011	540	81.6	4.0	81.6	2.8	0.8	10.9	0.0	82.7	80.4
	2015	685	81.5	4.1	81.5	3.1	2.1	9.0	0.1	83.7	79.0
Abu Dhabi, UAE	2011	624	55.3	14.3	55.3	16.9	10.8	2.6	0.2	53.5	56.8
	2015	692	49.2	15.6	49.2	18.8	14.3	2.0	0.0	48.8	49.6
Dubai, UAE	2011	789	56.6	17.6	56.6	14.1	9.5	2.1	0.1	54.7	58.4
	2015	881	58.0	11.6	58.0	18.6	9.4	2.3	0.1	54.2	62.1
Florida, US	2011	246	72.3	9.7	72.3	9.3	8.7	0.0	0.0	75.1	69.8
	2015	298	73.6	10.6	73.6	7.6	7.9	0.3	0.0	76.0	71.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_02 (S052071): Biology / Applying Type: MC Key: C
Label: Birds puff up feathers in cold

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	58.6	34.1	4.8	58.6	2.2	0.3	0.0	56.9	60.4
	2015	1468	56.9	37.6	2.6	56.9	1.9	0.7	0.2	54.7	59.2
Bahrain	2011	654	34.8	43.2	7.1	34.8	12.5	1.8	0.5	33.7	36.0
	2015	701	31.1	46.9	7.1	31.1	14.0	0.9	0.0	29.9	32.2
Botswana	2011	764	29.5	40.0	21.0	29.5	9.0	0.6	0.0	28.3	30.7
	2015	847	22.4	42.4	23.5	22.4	10.2	1.3	0.1	20.5	24.6
Chile	2011	828	29.6	59.0	4.2	29.6	5.9	1.0	0.3	26.0	33.7
	2015	676	27.6	62.1	5.1	27.6	4.2	0.8	0.2	23.4	31.9
Chinese Taipei	2011	718	67.4	25.4	4.0	67.4	3.1	0.1	0.1	67.4	67.4
	2015	821	69.7	25.1	3.1	69.7	1.9	0.2	0.1	67.4	72.1
England	2011	542	67.8	27.6	1.8	67.8	1.8	0.8	0.3	65.6	69.9
	2015	692	65.6	29.0	2.8	65.6	1.7	0.6	0.3	61.7	70.4
Georgia	2011	647	48.9	32.2	8.5	48.9	8.6	1.6	0.1	47.3	50.4
	2015	572	59.9	27.8	8.0	59.9	3.3	0.6	0.4	57.5	62.4
Hong Kong SAR	2011	576	67.7	21.1	6.2	67.7	4.1	0.8	0.2	69.5	65.8
	2015	597	72.0	22.9	2.6	72.0	1.5	0.9	0.0	69.6	74.1
Hungary	2011	730	62.3	30.0	3.2	62.3	3.8	0.6	0.0	62.5	62.1
	2015	704	61.4	34.0	1.7	61.4	2.2	0.8	0.0	56.2	66.8
Iran, Islamic Rep. of	2011	875	36.2	47.4	6.3	36.2	9.0	1.2	0.0	34.8	37.5
	2015	885	32.1	52.4	7.4	32.1	6.8	1.0	0.3	29.6	34.5
Israel	2011	665	56.5	35.0	4.6	56.5	2.3	1.1	0.6	57.2	56.0
	2015	787	50.9	39.1	5.5	50.9	3.0	1.3	0.1	46.9	55.3
Italy	2011	563	48.0	47.4	1.4	48.0	1.1	1.9	0.2	47.5	48.5
	2015	627	41.5	52.1	0.8	41.5	1.3	4.3	0.0	36.7	46.2
Japan	2011	628	64.4	28.1	5.5	64.4	1.3	0.6	0.0	63.7	65.2
	2015	681	64.6	28.4	4.4	64.6	2.1	0.4	0.2	65.6	63.5
Jordan	2011	1092	40.8	33.6	9.6	40.8	14.9	1.0	0.0	41.1	40.6
	2015	1134	35.2	39.2	10.6	35.2	13.1	1.7	0.1	33.2	37.4
Kazakhstan	2011	617	48.2	35.4	6.8	48.2	7.5	1.8	0.3	46.6	49.8
	2015	697	56.9	30.8	5.2	56.9	5.5	1.4	0.2	58.3	55.4
Korea, Rep. of	2011	741	67.1	30.1	1.8	67.1	0.8	0.1	0.1	67.0	67.1
	2015	757	74.8	21.3	1.8	74.8	1.9	0.3	0.0	69.6	79.0
Lebanon	2011	548	23.4	44.6	16.9	23.4	12.1	2.8	0.1	22.7	24.2
	2015	542	16.2	44.9	16.0	16.2	13.8	6.9	2.2	12.1	20.5
Lithuania	2011	673	56.8	34.1	3.1	56.8	3.9	2.1	0.0	59.5	54.7
	2015	621	55.3	38.3	2.6	55.3	2.2	1.6	0.0	58.2	52.3

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_02 (S052071): Biology / Applying Type: MC Key: C
Label: Birds puff up feathers in cold

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	22.7	57.3	10.2	22.7	7.9	1.1	0.8	21.3	24.0
	2015	1377	35.6	49.8	9.1	35.6	4.9	0.4	0.1	36.9	34.2
Morocco	2011	1335	18.9	43.5	13.5	18.9	21.8	2.1	0.2	19.5	18.5
	2015	1882	17.5	48.5	12.1	17.5	20.1	1.6	0.1	16.6	18.2
New Zealand	2011	755	64.0	28.5	2.6	64.0	2.4	2.2	0.2	59.8	67.8
	2015	1122	55.3	37.4	2.8	55.3	3.6	0.8	0.2	50.7	60.0
Oman	2011	1363	32.3	36.0	12.8	32.3	17.0	1.8	0.1	35.9	28.5
	2015	1255	35.2	37.4	11.5	35.2	14.7	1.1	0.0	37.4	33.2
Qatar	2011	624	31.8	42.5	15.0	31.8	9.9	0.8	0.0	26.6	36.6
	2015	769	37.8	47.1	7.5	37.8	6.9	0.4	0.3	35.2	40.4
Russian Federation	2011	709	70.3	23.8	2.7	70.3	2.3	0.4	0.5	68.7	71.9
	2015	677	72.5	22.5	2.6	72.5	1.8	0.4	0.1	66.3	78.0
Saudi Arabia	2011	627	39.8	32.6	9.6	39.8	17.3	0.7	0.0	40.2	39.4
	2015	529	35.1	36.5	12.6	35.1	15.7	0.0	0.0	42.6	27.2
Singapore	2011	850	66.9	26.8	4.3	66.9	1.9	0.0	0.1	68.9	65.0
	2015	872	73.9	23.1	1.8	73.9	1.2	0.0	0.0	72.4	75.3
Slovenia	2011	633	66.6	28.7	2.3	66.6	0.3	2.1	0.0	63.6	69.3
	2015	604	65.5	30.4	1.2	65.5	1.1	1.8	0.0	62.5	68.5
South Africa	2011	1704	15.2	26.9	28.6	15.2	26.2	2.5	0.5	13.4	16.9
	2015	1791	14.9	34.3	27.5	14.9	22.0	1.0	0.3	13.4	16.5
Sweden	2011	797	53.1	39.8	2.3	53.1	1.8	2.9	0.1	49.4	56.9
	2015	585	62.7	31.2	1.7	62.7	1.6	2.6	0.2	59.1	66.1
Thailand	2011	859	30.0	51.4	10.4	30.0	6.5	1.5	0.2	32.6	27.0
	2015	918	28.7	52.5	11.3	28.7	7.0	0.5	0.0	29.4	27.8
Turkey	2011	990	49.1	37.5	6.1	49.1	6.5	0.7	0.2	50.0	48.2
	2015	869	48.7	43.1	3.1	48.7	5.0	0.1	0.0	45.4	51.8
United Arab Emirates	2011	1999	37.1	42.2	9.5	37.1	10.0	1.1	0.1	36.9	37.4
	2015	2583	36.6	43.4	9.7	36.6	9.0	1.3	0.0	36.8	36.4
United States	2011	1490	52.6	42.1	3.0	52.6	1.7	0.4	0.2	48.8	56.5
	2015	1475	51.4	42.9	2.3	51.4	2.2	0.7	0.5	48.7	53.7

International Avg (n=33)	2011	28507	47.2	36.6	7.6	47.2	7.2	1.2	0.2	46.4	48.0
	2015	31117	47.4	38.0	6.9	47.4	6.3	1.2	0.2	45.6	49.2

Ontario, Canada	2011	682	58.9	34.8	2.1	58.9	2.6	1.1	0.4	55.1	62.0
	2015	644	55.7	39.2	2.5	55.7	2.2	0.4	0.0	52.6	58.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_02 (S052071): Biology / Applying Type: MC Key: C
Label: Birds puff up feathers in cold

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	57.9	38.9	1.1	57.9	1.0	0.7	0.4	53.9	62.1
	2015	549	54.0	42.9	1.2	54.0	0.6	0.2	1.1	47.9	61.1
Norway (8)	2011	540	42.3	49.4	2.7	42.3	3.2	2.4	0.0	40.9	43.7
	2015	685	43.9	48.4	2.2	43.9	4.3	1.1	0.1	42.1	45.9
Abu Dhabi, UAE	2011	624	38.8	41.0	9.5	38.8	8.8	1.6	0.2	36.3	41.0
	2015	692	33.2	42.9	9.9	33.2	12.4	1.6	0.0	36.1	30.6
Dubai, UAE	2011	789	40.5	41.9	6.6	40.5	10.5	0.4	0.1	43.6	37.5
	2015	881	46.4	40.9	7.0	46.4	5.3	0.3	0.1	42.2	50.9
Florida, US	2011	246	48.7	47.8	2.8	48.7	0.3	0.4	0.0	46.1	50.9
	2015	298	42.4	49.1	4.1	42.4	4.4	0.0	0.0	37.6	46.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_03 (S052246): Biology / Applying Type: MC Key: A
Label: Limbs from different organisms

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	54.8	54.8	7.9	28.9	7.0	1.3	0.0	55.1	54.5
	2015	1468	53.5	53.5	7.0	29.9	7.0	2.4	0.2	50.7	56.4
Bahrain	2011	654	38.2	38.2	18.6	19.8	20.3	2.6	0.5	41.4	34.8
	2015	701	39.3	39.3	18.2	20.9	19.8	1.9	0.0	45.3	33.5
Botswana	2011	763	22.2	22.2	22.4	33.0	20.7	1.7	0.0	21.5	22.8
	2015	847	19.7	19.7	18.3	37.5	22.2	2.2	0.1	18.6	20.8
Chile	2011	828	46.8	46.8	9.5	33.5	7.7	2.2	0.3	42.0	52.1
	2015	676	41.3	41.3	7.3	40.8	9.0	1.3	0.2	37.2	45.5
Chinese Taipei	2011	718	65.9	65.9	13.2	14.4	6.0	0.3	0.1	64.0	67.6
	2015	821	70.2	70.2	11.7	13.8	4.2	0.0	0.1	67.8	72.7
England	2011	542	53.2	53.2	8.6	27.5	8.8	1.6	0.3	52.3	54.0
	2015	692	56.0	56.0	9.7	25.8	7.1	1.2	0.3	54.2	58.1
Georgia	2011	653	27.2	27.2	23.9	16.3	29.8	2.6	0.1	29.6	25.1
	2015	572	25.2	25.2	26.6	18.1	26.7	3.0	0.4	21.9	28.4
Hong Kong SAR	2011	576	44.1	44.1	17.7	27.8	10.0	0.2	0.2	38.2	50.5
	2015	597	51.8	51.8	15.7	23.0	9.1	0.3	0.0	46.0	56.8
Hungary	2011	730	52.0	52.0	14.3	18.5	14.2	1.0	0.0	49.0	54.6
	2015	704	59.5	59.5	11.0	16.2	12.8	0.5	0.0	57.0	62.1
Iran, Islamic Rep. of	2011	875	43.7	43.7	19.7	15.7	20.0	0.8	0.0	49.0	39.1
	2015	886	25.6	25.6	22.7	20.3	28.5	2.6	0.3	21.7	29.3
Israel	2011	665	41.8	41.8	17.0	22.9	15.9	1.9	0.6	42.2	41.4
	2015	787	42.9	42.9	16.0	22.3	16.2	2.6	0.1	38.0	48.0
Italy	2011	563	60.0	60.0	12.3	10.3	15.2	2.0	0.2	59.5	60.4
	2015	627	62.0	62.0	9.0	10.0	13.1	5.9	0.0	61.9	62.1
Japan	2011	628	77.0	77.0	11.8	5.1	5.8	0.3	0.0	72.4	81.9
	2015	681	72.0	72.0	15.3	4.4	7.7	0.3	0.2	70.6	73.5
Jordan	2011	1092	33.3	33.3	22.8	18.3	23.3	2.3	0.0	34.6	32.0
	2015	1134	30.8	30.8	24.3	17.8	24.8	2.2	0.1	28.4	33.3
Kazakhstan	2011	617	40.3	40.3	15.2	19.7	21.7	2.7	0.3	39.4	41.3
	2015	697	57.0	57.0	15.7	12.0	14.0	1.1	0.2	55.9	58.1
Korea, Rep. of	2011	741	45.7	45.7	25.8	17.1	11.2	0.1	0.1	40.5	51.3
	2015	757	49.0	49.0	25.2	13.1	12.0	0.8	0.0	46.4	51.1
Lebanon	2011	547	31.9	31.9	19.5	21.8	21.2	5.4	0.3	30.6	33.6
	2015	545	35.0	35.0	15.7	19.4	18.7	9.0	2.2	33.2	37.0
Lithuania	2011	673	47.7	47.7	24.0	17.9	9.8	0.6	0.0	47.0	48.3
	2015	621	50.3	50.3	23.1	14.4	11.1	1.1	0.0	52.4	48.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_03 (S052246): Biology / Applying Type: MC Key: A
Label: Limbs from different organisms

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	33.2	33.2	24.6	23.2	16.4	1.8	0.8	31.6	34.7
	2015	1377	23.5	23.5	31.1	28.4	14.8	2.0	0.2	19.5	27.6
Morocco	2011	1335	23.3	23.3	26.8	19.2	27.4	3.1	0.2	20.6	25.8
	2015	1882	26.1	26.1	27.3	16.6	27.6	2.3	0.1	29.0	23.7
New Zealand	2011	755	45.4	45.4	8.0	35.9	8.0	2.6	0.2	40.4	49.8
	2015	1122	47.3	47.3	8.8	35.2	7.0	1.3	0.3	46.6	48.1
Oman	2011	1363	31.6	31.6	17.5	23.9	23.6	3.3	0.1	33.1	30.1
	2015	1255	32.4	32.4	19.2	22.3	24.1	2.0	0.0	30.2	34.4
Qatar	2011	624	34.8	34.8	19.7	26.0	17.7	1.8	0.0	31.7	37.6
	2015	769	41.9	41.9	18.2	18.7	18.0	2.9	0.3	45.9	38.2
Russian Federation	2011	709	55.2	55.2	17.4	11.2	12.6	3.2	0.5	52.8	57.5
	2015	677	58.2	58.2	18.0	9.6	12.7	1.4	0.1	54.2	61.7
Saudi Arabia	2011	624	30.9	30.9	20.2	24.4	23.8	0.7	0.0	31.3	30.6
	2015	529	32.1	32.1	16.1	31.6	19.7	0.5	0.0	36.0	27.9
Singapore	2011	850	52.9	52.9	9.8	25.7	10.9	0.6	0.1	53.1	52.6
	2015	872	53.4	53.4	8.6	26.1	11.1	0.8	0.0	51.2	55.5
Slovenia	2011	633	58.8	58.8	17.0	10.3	12.6	1.3	0.0	54.8	62.1
	2015	604	57.4	57.4	20.4	12.8	9.0	0.4	0.0	56.7	58.1
South Africa	2011	1704	27.3	27.3	24.2	23.7	22.1	2.0	0.7	27.0	27.6
	2015	1791	24.7	24.7	19.1	29.4	24.4	2.1	0.3	24.6	24.9
Sweden	2011	797	57.6	57.6	10.6	15.2	13.5	3.0	0.1	57.7	57.6
	2015	585	63.7	63.7	10.2	9.2	14.2	2.4	0.2	65.3	62.8
Thailand	2011	859	30.9	30.9	30.7	12.0	23.4	2.8	0.2	29.1	33.1
	2015	918	37.0	37.0	27.3	12.0	22.5	1.2	0.0	34.3	40.3
Turkey	2011	990	28.6	28.6	13.1	31.7	24.2	2.2	0.2	27.3	30.1
	2015	869	29.9	29.9	13.0	31.4	25.3	0.4	0.0	28.1	31.6
United Arab Emirates	2011	1999	30.2	30.2	22.6	21.2	24.1	1.7	0.2	29.4	30.9
	2015	2583	34.6	34.6	18.6	22.8	20.9	3.1	0.1	34.0	35.2
United States	2011	1490	55.9	55.9	6.9	30.1	6.1	0.7	0.2	55.3	56.6
	2015	1475	60.1	60.1	5.5	27.7	5.0	1.2	0.5	58.6	61.8

International Avg (n=33)	2011	28508	43.1	43.1	17.4	21.3	16.2	1.8	0.2	41.9	44.3
	2015	31121	44.3	44.3	16.8	21.0	15.8	1.9	0.2	43.1	45.7

Ontario, Canada	2011	682	48.3	48.3	11.9	31.4	6.6	1.4	0.4	46.1	50.1
	2015	643	55.0	55.0	9.6	27.3	7.2	0.9	0.1	56.2	54.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_03 (S052246): Biology / Applying Type: MC Key: A
Label: Limbs from different organisms

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	58.2	58.2	9.8	23.0	7.3	1.2	0.4	56.5	60.1
	2015	552	56.7	56.7	13.7	19.1	7.3	2.1	1.1	50.6	63.8
Norway (8)	2011	540	60.0	60.0	13.8	9.0	15.4	1.5	0.3	61.9	57.9
	2015	685	56.8	56.8	15.9	9.8	15.6	1.8	0.1	54.9	58.9
Abu Dhabi, UAE	2011	624	27.1	27.1	24.8	21.0	24.6	2.0	0.5	27.1	27.1
	2015	692	30.2	30.2	20.4	21.9	24.0	3.6	0.0	27.5	32.6
Dubai, UAE	2011	789	36.8	36.8	20.1	21.3	20.2	1.4	0.2	35.9	37.7
	2015	881	44.9	44.9	14.6	23.2	15.4	1.7	0.2	45.5	44.2
Florida, US	2011	246	57.0	57.0	5.6	31.2	5.9	0.4	0.0	55.9	58.0
	2015	298	53.0	53.0	7.5	34.3	4.9	0.4	0.0	54.5	51.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_04 (S052276): Biology / Knowing Type: MC Key: D
Label: Good source of calcium

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	74.2	5.8	4.5	13.9	74.2	1.6	0.0	77.1	71.2
	2015	1468	73.5	5.0	6.4	13.7	73.5	1.1	0.3	74.5	72.5
Bahrain	2011	654	70.5	9.1	4.4	13.7	70.5	1.4	1.0	82.0	58.6
	2015	701	65.6	12.4	4.2	17.3	65.6	0.5	0.0	78.0	53.9
Botswana	2011	763	40.4	10.9	10.7	37.0	40.4	0.9	0.0	40.8	40.0
	2015	847	32.6	13.2	17.0	35.1	32.6	1.6	0.4	33.8	31.3
Chile	2011	828	73.6	5.5	4.7	13.9	73.6	2.0	0.3	73.7	73.5
	2015	676	77.9	4.2	4.5	12.3	77.9	0.9	0.2	76.3	79.5
Chinese Taipei	2011	718	73.9	17.2	0.2	7.7	73.9	0.9	0.1	73.4	74.3
	2015	821	71.5	17.9	0.2	10.1	71.5	0.2	0.1	71.8	71.2
England	2011	542	82.3	3.0	6.2	6.0	82.3	2.2	0.3	87.2	77.6
	2015	692	82.8	3.4	5.6	6.5	82.8	1.4	0.3	85.8	79.2
Georgia	2011	653	40.8	22.2	6.1	28.3	40.8	2.4	0.1	47.0	35.3
	2015	572	60.5	15.6	3.2	18.2	60.5	1.9	0.4	57.4	63.6
Hong Kong SAR	2011	576	62.9	25.4	1.9	8.9	62.9	0.8	0.2	66.6	58.9
	2015	597	54.7	26.2	2.5	15.8	54.7	0.7	0.0	58.7	51.4
Hungary	2011	730	48.6	9.7	4.4	35.5	48.6	1.8	0.0	46.8	50.1
	2015	704	47.0	13.5	4.1	34.6	47.0	0.9	0.0	46.2	47.9
Iran, Islamic Rep. of	2011	875	38.4	7.2	9.0	44.0	38.4	1.3	0.0	40.9	36.3
	2015	886	42.1	8.5	3.6	44.7	42.1	0.9	0.3	43.2	41.0
Israel	2011	665	69.9	8.8	2.7	16.4	69.9	1.7	0.6	73.2	67.0
	2015	787	64.1	7.7	2.6	24.2	64.1	1.3	0.2	66.6	61.4
Italy	2011	563	80.6	2.8	4.2	11.4	80.6	0.9	0.2	82.4	78.8
	2015	627	73.3	3.5	5.7	17.0	73.3	0.4	0.0	76.4	70.4
Japan	2011	628	84.3	5.1	1.5	8.8	84.3	0.3	0.0	83.6	85.1
	2015	681	84.3	3.7	0.5	10.8	84.3	0.2	0.5	83.9	84.8
Jordan	2011	1092	59.8	6.9	4.4	26.9	59.8	2.1	0.0	64.1	55.7
	2015	1134	47.7	10.0	4.2	36.5	47.7	1.6	0.1	50.7	44.4
Kazakhstan	2011	617	39.6	26.6	1.3	29.2	39.6	3.0	0.3	39.3	39.9
	2015	697	65.5	12.5	2.0	18.7	65.5	1.1	0.2	66.0	65.0
Korea, Rep. of	2011	741	83.1	9.7	0.6	6.5	83.1	0.0	0.1	86.2	79.6
	2015	757	72.3	10.5	1.0	16.2	72.3	0.0	0.0	76.6	68.8
Lebanon	2011	547	47.1	13.0	7.0	30.0	47.1	2.5	0.3	45.8	48.8
	2015	547	40.3	15.3	6.0	28.8	40.3	6.9	2.8	43.2	37.1
Lithuania	2011	673	53.6	13.0	4.6	27.1	53.6	1.5	0.1	51.2	55.5
	2015	621	52.3	14.3	4.7	27.2	52.3	1.5	0.0	51.9	52.6

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_04 (S052276): Biology / Knowing Type: MC Key: D
Label: Good source of calcium

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	43.1	37.0	8.1	9.2	43.1	1.8	0.8	46.8	39.8
	2015	1377	48.1	29.3	9.9	11.3	48.1	1.2	0.3	48.2	48.0
Morocco	2011	1335	48.6	24.5	4.3	20.7	48.6	1.6	0.2	48.6	48.6
	2015	1882	45.9	29.7	2.0	19.4	45.9	2.8	0.2	50.8	41.9
New Zealand	2011	755	78.0	7.0	4.9	8.1	78.0	1.9	0.2	79.1	77.1
	2015	1122	77.6	5.9	3.7	11.0	77.6	1.5	0.3	79.7	75.4
Oman	2011	1363	61.2	16.6	5.7	14.5	61.2	1.8	0.2	67.6	54.3
	2015	1254	55.1	22.0	3.8	17.3	55.1	1.8	0.0	59.3	51.3
Qatar	2011	624	54.1	17.3	7.3	19.9	54.1	1.2	0.2	56.1	52.3
	2015	769	58.2	13.2	5.3	20.7	58.2	2.1	0.6	62.6	54.1
Russian Federation	2011	709	43.1	23.4	1.7	29.5	43.1	1.7	0.5	42.4	43.8
	2015	677	54.4	18.1	1.7	23.8	54.4	1.8	0.1	57.7	51.6
Saudi Arabia	2011	626	67.2	9.9	3.8	18.2	67.2	0.9	0.0	74.8	60.3
	2015	530	58.0	12.7	4.8	24.2	58.0	0.4	0.0	64.5	51.3
Singapore	2011	850	84.9	6.6	1.9	6.5	84.9	0.1	0.1	84.9	85.0
	2015	872	87.8	5.0	1.5	5.7	87.8	0.0	0.0	87.4	88.2
Slovenia	2011	633	34.0	13.5	14.5	36.2	34.0	1.8	0.0	30.2	37.4
	2015	604	32.7	14.5	13.5	37.3	32.7	2.0	0.0	31.4	34.1
South Africa	2011	1704	38.8	16.1	15.5	26.3	38.8	2.6	0.7	37.2	40.2
	2015	1791	36.4	19.3	18.2	24.1	36.4	1.5	0.5	37.9	34.9
Sweden	2011	797	66.8	4.7	11.1	14.9	66.8	2.4	0.1	66.4	67.1
	2015	585	66.9	5.8	6.2	17.7	66.9	3.2	0.2	67.7	66.4
Thailand	2011	859	18.7	50.3	7.5	21.1	18.7	2.0	0.3	16.7	21.0
	2015	918	86.2	8.5	1.3	3.2	86.2	0.7	0.1	89.3	82.4
Turkey	2011	990	72.8	5.1	1.8	19.9	72.8	0.1	0.3	77.7	67.4
	2015	869	68.4	4.4	1.3	25.8	68.4	0.1	0.0	74.0	63.2
United Arab Emirates	2011	1999	56.7	15.9	4.9	20.9	56.7	1.2	0.3	63.7	49.9
	2015	2583	58.6	12.5	3.4	22.8	58.6	2.6	0.1	63.4	54.0
United States	2011	1490	76.8	7.3	6.3	8.6	76.8	0.8	0.2	77.7	75.9
	2015	1475	67.5	10.3	6.2	14.0	67.5	1.3	0.6	67.7	67.2

International Avg (n=33)	2011	28510	59.7	13.9	5.4	19.4	59.7	1.5	0.2	61.6	57.8
	2015	31123	60.9	12.4	4.9	20.2	60.9	1.4	0.3	63.1	58.8

Ontario, Canada	2011	682	83.9	3.1	3.7	7.3	83.9	1.5	0.5	86.3	82.0
	2015	643	85.6	2.5	4.6	6.7	85.6	0.5	0.1	90.7	81.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_04 (S052276): Biology / Knowing Type: MC Key: D
Label: Good source of calcium

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	83.1	3.1	3.9	8.1	83.1	1.4	0.4	85.9	80.1
	2015	555	76.0	4.2	4.3	13.6	76.0	0.8	1.1	75.3	76.7
Norway (8)	2011	540	56.1	13.6	4.9	23.8	56.1	1.3	0.3	53.4	58.9
	2015	685	46.0	13.8	8.4	30.2	46.0	1.5	0.1	43.8	48.3
Abu Dhabi, UAE	2011	624	55.1	15.8	5.1	22.2	55.1	1.1	0.7	61.4	49.6
	2015	692	52.7	12.9	4.0	27.2	52.7	3.3	0.0	57.8	48.0
Dubai, UAE	2011	789	62.4	12.5	5.5	18.5	62.4	0.9	0.2	70.4	54.9
	2015	881	68.4	8.7	3.0	19.0	68.4	0.7	0.3	73.3	62.9
Florida, US	2011	246	72.4	11.3	10.0	5.9	72.4	0.4	0.0	76.3	68.9
	2015	298	61.7	14.8	7.3	15.5	61.7	0.7	0.0	63.7	59.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_05A (S052303A): Biology / Applying Type: MC Key: B
Label: Pond: Fish eat mosquito larvae

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	64.0	2.7	64.0	2.1	29.8	1.4	0.0	69.2	58.7
	2015	1468	66.7	1.9	66.7	2.6	26.4	2.1	0.3	67.7	65.7
Bahrain	2011	654	49.9	8.6	49.9	7.8	31.5	1.2	1.0	58.4	41.1
	2015	702	53.0	10.7	53.0	7.8	26.5	2.0	0.0	55.1	51.1
Botswana	2011	763	44.2	11.2	44.2	8.4	35.5	0.7	0.0	45.2	43.1
	2015	847	46.5	14.7	46.5	6.6	30.2	1.6	0.4	47.3	45.6
Chile	2011	828	59.0	6.2	59.0	3.4	29.9	1.1	0.4	61.8	55.9
	2015	676	65.1	4.8	65.1	3.9	24.4	1.5	0.2	71.5	58.6
Chinese Taipei	2011	718	82.4	4.0	82.4	0.5	12.8	0.1	0.1	82.8	82.0
	2015	821	79.4	3.8	79.4	1.1	15.6	0.0	0.1	83.6	75.0
England	2011	542	56.4	4.2	56.4	2.4	34.9	1.8	0.3	59.0	53.9
	2015	692	59.1	6.4	59.1	1.1	32.1	1.0	0.3	64.2	53.0
Georgia	2011	653	57.7	7.5	57.7	7.6	23.8	3.3	0.1	63.4	52.5
	2015	571	60.6	8.2	60.6	5.0	22.3	3.6	0.4	66.5	54.7
Hong Kong SAR	2011	576	69.1	7.5	69.1	2.0	20.9	0.3	0.2	71.0	67.0
	2015	597	69.1	5.3	69.1	2.9	21.9	0.6	0.0	72.4	66.3
Hungary	2011	730	74.4	3.0	74.4	2.6	20.0	0.0	0.0	73.7	75.0
	2015	704	77.7	1.5	77.7	0.9	19.7	0.2	0.0	80.7	74.5
Iran, Islamic Rep. of	2011	875	43.6	10.8	43.6	4.3	40.5	0.8	0.0	46.7	40.8
	2015	886	51.4	11.4	51.4	4.1	30.9	1.9	0.3	54.4	48.5
Israel	2011	665	72.4	4.9	72.4	2.9	18.4	0.8	0.6	79.1	66.4
	2015	787	71.6	6.8	71.6	2.3	18.0	1.2	0.2	71.0	72.2
Italy	2011	563	67.6	3.3	67.6	2.2	25.0	1.8	0.2	69.4	65.8
	2015	627	66.1	4.7	66.1	2.8	25.3	1.0	0.0	68.7	63.6
Japan	2011	628	86.7	2.8	86.7	1.9	8.5	0.2	0.0	87.4	86.1
	2015	681	86.4	2.2	86.4	1.8	8.7	0.4	0.5	89.0	83.6
Jordan	2011	1092	47.1	13.7	47.1	7.4	29.3	2.4	0.1	48.3	45.9
	2015	1134	41.9	15.1	41.9	7.1	33.0	2.7	0.2	41.4	42.5
Kazakhstan	2011	617	56.2	10.6	56.2	5.9	25.6	1.5	0.3	57.8	54.6
	2015	697	66.4	8.0	66.4	3.4	19.0	3.1	0.2	71.9	60.4
Korea, Rep. of	2011	741	86.6	1.7	86.6	0.2	11.3	0.0	0.1	86.7	86.5
	2015	757	86.5	2.8	86.5	0.5	9.9	0.3	0.0	89.8	83.8
Lebanon	2011	554	59.3	9.8	59.3	12.2	14.8	3.6	0.3	62.5	55.4
	2015	543	51.7	11.5	51.7	9.4	15.5	8.7	3.2	54.7	48.6
Lithuania	2011	673	68.8	4.0	68.8	1.7	23.6	1.8	0.1	77.4	62.0
	2015	621	59.4	6.3	59.4	2.6	27.4	4.3	0.0	64.7	53.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_05A (S052303A): Biology / Applying Type: MC Key: B
Label: Pond: Fish eat mosquito larvae

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	64.8	3.8	64.8	4.4	25.3	0.8	0.8	65.4	64.3
	2015	1377	67.9	3.2	67.9	2.9	24.9	0.8	0.3	70.8	64.9
Morocco	2011	1335	31.8	20.2	31.8	16.7	27.7	3.5	0.2	29.6	33.8
	2015	1882	37.6	16.5	37.6	14.2	29.1	2.3	0.2	41.1	34.8
New Zealand	2011	755	65.1	4.0	65.1	4.5	24.3	2.0	0.2	69.7	61.0
	2015	1122	66.5	3.6	66.5	4.3	23.5	1.8	0.3	69.7	63.1
Oman	2011	1363	43.6	13.3	43.6	11.7	28.2	2.8	0.4	47.4	39.7
	2015	1255	47.2	13.5	47.2	10.0	26.2	3.1	0.0	49.8	44.8
Qatar	2011	624	54.5	10.6	54.5	10.1	23.3	1.3	0.2	55.9	53.3
	2015	769	59.4	10.2	59.4	5.3	22.5	2.0	0.6	58.2	60.5
Russian Federation	2011	709	67.7	5.1	67.7	3.3	22.0	1.3	0.5	73.1	62.5
	2015	677	70.5	4.1	70.5	0.8	22.6	1.9	0.1	75.8	66.0
Saudi Arabia	2011	626	48.6	12.6	48.6	7.9	30.2	0.6	0.0	50.1	47.3
	2015	531	44.2	16.0	44.2	11.3	27.9	0.7	0.0	48.1	40.0
Singapore	2011	850	81.4	4.6	81.4	1.2	12.4	0.3	0.1	82.5	80.3
	2015	872	86.6	3.6	86.6	0.7	8.7	0.2	0.0	88.4	85.0
Slovenia	2011	633	66.8	3.2	66.8	1.9	26.7	1.4	0.0	67.2	66.4
	2015	604	69.3	2.1	69.3	2.5	25.0	1.2	0.0	76.1	62.6
South Africa	2011	1704	41.8	16.4	41.8	13.8	24.6	2.6	0.9	40.4	43.0
	2015	1791	42.8	16.2	42.8	11.1	28.0	1.4	0.6	40.2	45.4
Sweden	2011	797	73.5	3.7	73.5	2.0	19.4	1.3	0.1	78.8	68.2
	2015	585	69.0	2.4	69.0	1.9	21.2	5.2	0.2	75.9	63.4
Thailand	2011	859	74.0	2.5	74.0	1.8	20.2	1.2	0.3	79.7	67.2
	2015	918	72.8	1.8	72.8	3.6	20.5	1.3	0.1	80.0	63.8
Turkey	2011	990	56.1	9.3	56.1	7.6	25.2	1.6	0.3	56.9	55.2
	2015	869	60.3	7.5	60.3	5.5	26.1	0.6	0.0	59.0	61.5
United Arab Emirates	2011	1999	61.0	8.8	61.0	5.8	22.9	1.1	0.3	64.0	58.1
	2015	2583	64.0	7.4	64.0	4.2	22.6	1.6	0.1	68.1	60.2
United States	2011	1490	73.5	3.7	73.5	2.6	19.5	0.5	0.2	74.1	72.9
	2015	1475	71.6	3.2	71.6	1.5	22.3	0.9	0.6	75.8	67.4

International Avg (n=33)	2011	28517	62.1	7.2	62.1	5.2	23.9	1.4	0.3	64.7	59.6
	2015	31121	63.3	7.2	63.3	4.4	23.0	1.8	0.3	66.4	60.2

Ontario, Canada	2011	682	54.1	3.1	54.1	1.6	39.7	1.0	0.5	58.2	50.7
	2015	642	64.6	3.6	64.6	1.4	29.7	0.7	0.1	70.0	59.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_05A (S052303A): Biology / Applying Type: MC Key: B
Label: Pond: Fish eat mosquito larvae

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	63.1	3.6	63.1	2.5	29.6	0.8	0.4	66.9	59.1
	2015	551	60.7	4.5	60.7	3.3	29.4	0.9	1.1	67.8	52.5
Norway (8)	2011	540	70.9	4.1	70.9	1.9	21.2	1.5	0.3	73.3	68.2
	2015	685	70.2	5.0	70.2	2.8	20.1	1.7	0.2	75.8	64.0
Abu Dhabi, UAE	2011	624	59.1	11.3	59.1	5.0	23.0	0.9	0.7	58.9	59.3
	2015	692	60.4	7.2	60.4	5.6	24.9	1.7	0.2	69.3	52.4
Dubai, UAE	2011	789	63.7	6.8	63.7	5.1	23.3	0.9	0.2	69.1	58.7
	2015	881	69.4	5.7	69.4	1.9	22.0	0.8	0.3	71.1	67.6
Florida, US	2011	246	74.0	4.0	74.0	0.6	21.4	0.0	0.0	78.4	70.0
	2015	298	67.5	5.1	67.5	4.2	23.2	0.0	0.0	72.6	62.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_05B (S052303B): Biology / Reasoning Type: CR 1 Point
Label: Pond: Adding more fish

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	56.5	43.0	0.5	0.0	56.5	55.1	57.9
	2015	1468	46.9	51.4	1.3	0.3	46.9	48.6	45.2
Bahrain	2011	654	24.5	73.2	1.3	1.0	24.5	30.6	18.1
	2015	702	27.2	70.4	1.8	0.5	27.2	28.3	26.2
Botswana	2011	763	25.7	72.2	2.1	0.0	25.7	24.9	26.4
	2015	847	24.9	72.4	2.2	0.5	24.9	26.5	23.2
Chile	2011	828	32.2	65.0	1.9	0.8	32.2	32.9	31.5
	2015	676	30.3	65.3	3.9	0.5	30.3	29.6	31.1
Chinese Taipei	2011	718	64.7	24.4	10.8	0.1	64.7	69.8	60.3
	2015	821	55.8	43.8	0.4	0.1	55.8	58.1	53.3
England	2011	542	39.5	58.0	2.2	0.3	39.5	41.5	37.6
	2015	692	45.5	53.1	1.1	0.3	45.5	45.9	45.0
Georgia	2011	653	20.0	72.7	7.0	0.3	20.0	21.7	18.6
	2015	571	11.5	84.0	4.2	0.4	11.5	7.4	15.6
Hong Kong SAR	2011	576	53.8	45.3	0.6	0.2	53.8	59.2	48.2
	2015	597	51.0	48.2	0.8	0.0	51.0	48.2	53.3
Hungary	2011	730	50.7	48.2	1.1	0.0	50.7	49.7	51.5
	2015	704	49.2	50.7	0.1	0.0	49.2	47.3	51.1
Iran, Islamic Rep. of	2011	874	21.3	77.6	1.1	0.0	21.3	20.3	22.1
	2015	886	17.2	79.2	3.4	0.3	17.2	19.3	15.1
Israel	2011	665	30.3	67.9	1.1	0.7	30.3	32.8	28.1
	2015	787	34.3	64.5	1.0	0.2	34.3	33.8	34.8
Italy	2011	563	44.7	52.5	2.6	0.2	44.7	47.7	41.9
	2015	627	37.3	60.5	2.1	0.0	37.3	36.2	38.4
Japan	2011	628	59.9	39.6	0.5	0.0	59.9	59.7	60.1
	2015	681	58.1	41.4	0.0	0.5	58.1	58.9	57.3
Jordan	2011	1092	20.8	77.7	1.2	0.4	20.8	19.9	21.6
	2015	1134	18.0	80.6	1.3	0.2	18.0	20.0	15.8
Kazakhstan	2011	617	29.8	58.9	11.1	0.3	29.8	28.4	31.1
	2015	697	40.2	56.9	2.6	0.2	40.2	43.8	36.4
Korea, Rep. of	2011	741	61.5	38.4	0.0	0.1	61.5	60.6	62.4
	2015	757	52.7	47.1	0.2	0.0	52.7	50.2	54.8
Lebanon	2011	557	14.4	80.2	4.9	0.5	14.4	12.5	16.7
	2015	549	14.8	74.5	6.9	3.8	14.8	17.4	12.1
Lithuania	2011	673	39.6	60.0	0.2	0.1	39.6	44.1	36.1
	2015	621	42.4	56.4	1.2	0.1	42.4	48.1	36.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_05B (S052303B): Biology / Reasoning Type: CR 1 Point
Label: Pond: Adding more fish

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	32.7	64.1	2.2	0.9	32.7	36.7	29.2
	2015	1377	40.7	56.6	2.5	0.3	40.7	37.9	43.5
Morocco	2011	1335	30.5	64.4	4.6	0.6	30.5	31.4	29.7
	2015	1879	16.2	82.2	1.3	0.3	16.2	15.6	16.6
New Zealand	2011	755	48.5	49.7	1.5	0.3	48.5	46.7	50.1
	2015	1122	50.0	48.3	1.3	0.3	50.0	51.6	48.4
Oman	2011	1363	24.4	72.5	2.7	0.4	24.4	29.3	19.2
	2015	1253	27.9	69.0	3.0	0.0	27.9	30.5	25.6
Qatar	2011	624	25.6	72.5	1.6	0.2	25.6	27.6	23.9
	2015	767	25.2	73.3	0.8	0.7	25.2	25.2	25.2
Russian Federation	2011	709	39.4	58.0	2.0	0.7	39.4	38.0	40.7
	2015	677	36.3	62.9	0.7	0.1	36.3	34.8	37.6
Saudi Arabia	2011	628	23.9	74.6	1.5	0.0	23.9	26.4	21.7
	2015	531	19.6	79.9	0.4	0.0	19.6	22.5	16.5
Singapore	2011	850	67.7	32.1	0.1	0.1	67.7	65.9	69.5
	2015	872	66.4	33.4	0.2	0.0	66.4	68.5	64.5
Slovenia	2011	633	44.1	54.8	1.1	0.0	44.1	41.0	46.8
	2015	604	54.6	45.1	0.3	0.0	54.6	57.6	51.7
South Africa	2011	1704	17.5	79.3	2.2	1.1	17.5	16.3	18.5
	2015	1791	15.6	81.6	1.9	0.9	15.6	17.9	13.3
Sweden	2011	797	47.6	51.2	1.0	0.1	47.6	49.1	46.2
	2015	581	51.9	46.2	1.1	0.8	51.9	52.9	51.2
Thailand	2011	859	62.7	32.7	4.1	0.4	62.7	66.1	58.6
	2015	918	51.7	44.8	3.3	0.1	51.7	57.3	45.0
Turkey	2011	990	30.0	66.7	2.9	0.4	30.0	29.8	30.3
	2015	869	35.3	64.0	0.7	0.0	35.3	35.6	35.0
United Arab Emirates	2011	1999	28.2	69.8	1.6	0.4	28.2	30.3	26.0
	2015	2582	27.5	70.8	1.5	0.2	27.5	30.5	24.7
United States	2011	1490	45.1	54.2	0.4	0.3	45.1	48.0	42.3
	2015	1475	44.1	54.6	0.6	0.6	44.1	44.2	44.1
International Avg (n=33)	2011	28521	38.1	59.1	2.4	0.3	38.1	39.2	37.1
	2015	31115	37.0	61.0	1.6	0.4	37.0	37.9	36.0
Ontario, Canada	2011	682	55.9	41.4	2.2	0.5	55.9	57.6	54.5
	2015	644	47.4	51.4	1.0	0.2	47.4	46.5	48.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_05B (S052303B): Biology / Reasoning Type: CR 1 Point
Label: Pond: Adding more fish

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	42.8	55.5	1.2	0.5	42.8	44.9	40.6
	2015	555	36.6	61.5	0.8	1.1	36.6	35.6	37.9
Norway (8)	2011	540	49.4	48.8	1.5	0.3	49.4	51.8	46.9
	2015	685	46.9	50.2	2.6	0.2	46.9	49.4	44.2
Abu Dhabi, UAE	2011	624	28.1	69.4	1.8	0.7	28.1	28.6	27.7
	2015	692	24.6	73.6	1.7	0.2	24.6	29.6	20.0
Dubai, UAE	2011	789	28.9	69.1	1.7	0.3	28.9	30.4	27.5
	2015	881	34.9	63.4	1.4	0.3	34.9	32.7	37.4
Florida, US	2011	246	47.8	52.2	0.0	0.0	47.8	46.9	48.6
	2015	298	44.5	55.5	0.0	0.0	44.5	48.7	40.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_06 (S052125): Biology / Applying Type: MC Key: D
Label: Body parts as organ systems

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	68.2	1.0	1.0	29.2	68.2	0.6	0.0	68.3	68.1
	2015	1468	69.8	1.5	0.8	26.6	69.8	0.9	0.3	68.9	70.8
Bahrain	2011	654	57.3	5.8	2.6	32.7	57.3	0.7	1.0	64.4	49.9
	2015	702	55.8	2.4	5.7	33.9	55.8	1.6	0.5	58.5	53.3
Botswana	2011	764	57.5	5.1	4.2	31.9	57.5	1.3	0.2	59.9	54.8
	2015	847	54.1	3.7	3.8	36.8	54.1	1.1	0.5	53.2	55.0
Chile	2011	828	50.8	0.8	1.5	44.8	50.8	1.2	0.8	54.8	46.5
	2015	676	51.5	1.6	1.9	44.0	51.5	0.4	0.5	51.7	51.3
Chinese Taipei	2011	718	53.5	0.3	3.0	43.0	53.5	0.1	0.1	53.3	53.6
	2015	821	51.1	0.4	2.3	46.0	51.1	0.0	0.2	49.5	52.7
England	2011	542	58.1	0.4	1.9	38.1	58.1	1.3	0.3	57.6	58.6
	2015	692	54.5	1.1	2.6	41.2	54.5	0.4	0.3	56.9	51.5
Georgia	2011	653	49.9	4.2	3.4	41.5	49.9	0.7	0.3	50.4	49.4
	2015	571	62.2	2.8	0.9	32.7	62.2	1.0	0.4	65.2	59.1
Hong Kong SAR	2011	576	54.7	1.2	2.6	41.0	54.7	0.4	0.2	54.3	55.0
	2015	597	56.0	0.3	2.2	41.0	56.0	0.5	0.0	54.8	57.0
Hungary	2011	730	67.5	0.8	1.0	30.1	67.5	0.6	0.0	66.2	68.6
	2015	704	70.9	0.0	0.5	28.6	70.9	0.0	0.0	66.8	75.3
Iran, Islamic Rep. of	2011	875	74.4	1.7	6.7	16.2	74.4	0.9	0.0	69.0	79.2
	2015	886	72.2	2.8	6.8	16.9	72.2	1.0	0.3	67.0	77.1
Israel	2011	665	67.9	2.3	2.0	26.2	67.9	0.8	0.8	71.2	65.0
	2015	787	64.4	3.1	1.6	29.6	64.4	1.1	0.2	67.7	60.9
Italy	2011	563	80.5	0.4	2.6	16.0	80.5	0.3	0.2	81.1	79.9
	2015	627	77.3	0.9	3.1	17.5	77.3	1.1	0.0	75.3	79.3
Japan	2011	628	27.9	2.7	12.2	56.3	27.9	0.9	0.0	27.2	28.5
	2015	681	30.7	1.1	8.6	58.4	30.7	0.8	0.5	33.1	28.2
Jordan	2011	1092	48.3	4.3	4.1	41.4	48.3	1.6	0.4	53.5	43.3
	2015	1134	46.6	6.5	6.0	39.9	46.6	1.0	0.2	52.2	40.5
Kazakhstan	2011	617	57.2	0.4	0.9	40.6	57.2	0.6	0.3	62.1	52.3
	2015	696	63.6	1.2	0.3	34.1	63.6	0.6	0.2	63.3	63.9
Korea, Rep. of	2011	741	50.8	0.2	8.1	40.7	50.8	0.0	0.1	49.4	52.3
	2015	757	69.3	0.0	5.6	24.9	69.3	0.1	0.0	71.2	67.7
Lebanon	2011	555	63.4	2.2	2.1	29.2	63.4	2.6	0.5	62.4	64.7
	2015	544	55.4	5.9	2.9	27.0	55.4	4.9	3.9	57.4	53.3
Lithuania	2011	673	57.7	0.0	0.5	41.0	57.7	0.7	0.1	58.7	56.9
	2015	621	64.5	0.3	0.6	33.7	64.5	0.9	0.1	66.1	62.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_06 (S052125): Biology / Applying Type: MC Key: D
Label: Body parts as organ systems

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	57.0	3.9	1.9	35.9	57.0	0.4	0.9	56.8	57.2
	2015	1377	58.4	2.1	1.1	37.6	58.4	0.4	0.3	58.2	58.7
Morocco	2011	1335	42.5	6.8	3.2	44.6	42.5	2.3	0.7	44.9	40.2
	2015	1852	38.9	6.4	3.8	49.3	38.9	1.3	0.3	40.0	37.9
New Zealand	2011	755	53.7	1.5	2.4	40.8	53.7	1.4	0.3	53.1	54.1
	2015	1122	56.3	1.5	2.0	38.7	56.3	1.2	0.3	54.2	58.5
Oman	2011	1363	56.5	5.7	5.4	30.8	56.5	1.3	0.4	63.4	49.2
	2015	1255	60.8	5.4	4.7	27.2	60.8	1.7	0.3	63.6	58.2
Qatar	2011	624	61.4	5.5	6.2	25.7	61.4	1.0	0.2	65.1	58.0
	2015	769	56.8	4.8	2.8	33.7	56.8	1.1	0.7	58.3	55.4
Russian Federation	2011	709	68.9	0.8	0.0	28.8	68.9	0.8	0.7	67.8	70.0
	2015	677	74.2	0.1	0.0	25.2	74.2	0.3	0.1	74.2	74.3
Saudi Arabia	2011	627	55.4	4.1	3.7	36.4	55.4	0.1	0.3	63.4	48.0
	2015	531	52.0	4.0	6.7	35.8	52.0	1.4	0.0	59.6	44.0
Singapore	2011	850	68.9	0.8	0.9	29.0	68.9	0.3	0.1	67.6	70.2
	2015	872	74.2	0.2	0.4	24.7	74.2	0.4	0.0	74.0	74.5
Slovenia	2011	633	48.8	0.5	0.3	49.8	48.8	0.7	0.0	43.0	53.7
	2015	604	66.7	0.3	0.7	31.8	66.7	0.5	0.0	66.6	66.7
South Africa	2011	1704	46.4	17.4	9.8	23.0	46.4	2.2	1.1	48.0	45.0
	2015	1791	57.0	7.6	7.8	25.5	57.0	1.0	1.0	59.2	54.8
Sweden	2011	797	53.9	1.3	1.2	41.8	53.9	1.7	0.2	55.0	52.8
	2015	585	58.7	0.8	1.2	35.8	58.7	2.7	0.8	59.5	57.8
Thailand	2011	859	60.2	3.1	1.6	33.5	60.2	1.1	0.4	62.4	57.7
	2015	918	65.2	2.1	1.6	29.9	65.2	1.1	0.1	65.9	64.4
Turkey	2011	990	42.9	2.6	3.1	50.7	42.9	0.2	0.4	40.5	45.6
	2015	869	46.6	3.4	2.7	46.9	46.6	0.5	0.0	44.7	48.3
United Arab Emirates	2011	1999	61.9	2.8	3.3	30.8	61.9	0.8	0.4	62.5	61.2
	2015	2583	61.2	2.8	3.8	30.6	61.2	1.5	0.2	62.4	60.0
United States	2011	1490	62.8	0.6	1.1	34.7	62.8	0.4	0.3	60.2	65.4
	2015	1475	63.5	1.0	1.5	32.6	63.5	0.7	0.6	62.2	64.8

International Avg (n=33)	2011	28520	57.2	2.8	3.2	35.6	57.2	0.9	0.4	58.1	56.2
	2015	31091	59.4	2.4	2.9	33.9	59.4	1.0	0.4	60.0	58.7

Ontario, Canada	2011	682	73.7	1.8	1.0	22.3	73.7	0.7	0.5	71.2	75.7
	2015	643	72.2	0.6	1.7	25.1	72.2	0.2	0.2	71.6	72.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_06 (S052125): Biology / Applying Type: MC Key: D
Label: Body parts as organ systems

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	47.6	0.1	1.0	50.1	47.6	0.7	0.5	47.2	48.0
	2015	553	45.1	0.3	0.2	53.2	45.1	0.2	1.1	48.3	41.3
Norway (8)	2011	540	52.9	2.4	1.9	40.5	52.9	2.0	0.3	51.5	54.3
	2015	685	46.5	2.6	2.1	46.2	46.5	2.4	0.2	45.2	47.9
Abu Dhabi, UAE	2011	624	57.3	2.9	3.2	35.6	57.3	0.2	0.7	55.7	58.7
	2015	692	51.6	4.9	5.2	35.9	51.6	2.2	0.2	50.1	52.9
Dubai, UAE	2011	789	68.3	2.3	1.9	25.8	68.3	1.5	0.3	68.1	68.5
	2015	881	72.8	1.0	1.7	23.5	72.8	0.7	0.3	74.7	70.7
Florida, US	2011	246	70.8	0.7	0.9	27.5	70.8	0.0	0.0	69.8	71.7
	2015	298	64.5	1.5	0.5	33.1	64.5	0.3	0.0	63.7	65.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_07 (S052145): Chemistry / Reasoning Type: CR 1 Point
Label: State of water, mercury, iron

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	35.6	57.4	7.0	0.0	35.6	28.4	42.9
	2015	1468	38.8	54.3	6.5	0.3	38.8	33.8	44.1
Bahrain	2011	654	26.3	64.9	7.8	1.0	26.3	29.5	23.1
	2015	702	28.0	64.2	7.1	0.7	28.0	27.6	28.4
Botswana	2011	764	8.7	84.2	6.7	0.4	8.7	7.7	9.8
	2015	847	10.5	83.1	5.7	0.7	10.5	9.5	11.5
Chile	2011	828	18.1	55.9	25.0	1.0	18.1	14.3	22.3
	2015	676	19.2	50.5	29.8	0.5	19.2	12.9	25.8
Chinese Taipei	2011	718	73.2	24.6	2.0	0.1	73.2	69.9	76.1
	2015	821	74.4	23.3	2.1	0.2	74.4	72.3	76.7
England	2011	542	45.9	46.1	7.5	0.5	45.9	43.0	48.7
	2015	692	41.3	53.9	4.5	0.3	41.3	38.5	44.6
Georgia	2011	653	19.8	49.7	30.1	0.4	19.8	17.0	22.2
	2015	571	37.0	45.1	17.5	0.4	37.0	31.8	42.1
Hong Kong SAR	2011	576	64.3	33.0	2.6	0.2	64.3	62.8	65.8
	2015	597	67.5	31.4	1.1	0.0	67.5	65.2	69.5
Hungary	2011	730	61.2	33.3	5.5	0.0	61.2	56.3	65.4
	2015	704	58.8	38.8	2.3	0.0	58.8	53.1	64.8
Iran, Islamic Rep. of	2011	873	15.6	59.0	25.5	0.0	15.6	16.0	15.2
	2015	886	17.5	54.9	27.3	0.3	17.5	14.7	20.1
Israel	2011	665	47.0	45.3	6.9	0.8	47.0	42.1	51.4
	2015	787	48.0	44.4	7.2	0.4	48.0	43.3	53.1
Italy	2011	563	35.1	43.9	20.8	0.2	35.1	29.0	40.8
	2015	627	41.6	41.3	17.2	0.0	41.6	33.0	49.9
Japan	2011	628	65.5	30.8	3.7	0.0	65.5	59.3	71.9
	2015	681	68.0	27.2	4.2	0.5	68.0	65.6	70.5
Jordan	2011	1092	27.9	66.7	5.0	0.4	27.9	28.5	27.3
	2015	1134	24.8	69.0	6.0	0.2	24.8	25.7	23.7
Kazakhstan	2011	617	45.0	42.1	12.5	0.4	45.0	48.2	41.8
	2015	696	53.7	37.8	8.3	0.2	53.7	54.1	53.2
Korea, Rep. of	2011	741	75.5	23.2	1.1	0.1	75.5	74.6	76.5
	2015	757	67.8	31.1	1.1	0.0	67.8	69.1	66.7
Lebanon	2011	557	25.5	64.1	9.7	0.7	25.5	25.4	25.7
	2015	549	24.3	60.6	10.9	4.2	24.3	27.3	21.1
Lithuania	2011	673	37.8	53.2	8.9	0.1	37.8	38.2	37.5
	2015	621	39.0	53.4	7.5	0.1	39.0	38.1	40.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_07 (S052145): Chemistry / Reasoning Type: CR 1 Point
Label: State of water, mercury, iron

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	14.3	68.8	15.6	1.2	14.3	14.4	14.3
	2015	1377	30.3	60.2	9.3	0.3	30.3	31.2	29.3
Morocco	2011	1335	11.8	70.3	17.1	0.9	11.8	12.4	11.2
	2015	1849	16.9	70.3	12.5	0.4	16.9	17.7	16.3
New Zealand	2011	755	33.1	58.6	8.0	0.4	33.1	27.1	38.3
	2015	1122	38.8	52.6	8.3	0.3	38.8	33.4	44.4
Oman	2011	1362	23.1	68.2	8.2	0.4	23.1	25.8	20.3
	2015	1255	28.2	66.6	4.8	0.4	28.2	30.7	26.0
Qatar	2011	624	22.9	65.2	11.6	0.2	22.9	25.1	21.0
	2015	769	27.9	64.6	6.8	0.7	27.9	26.1	29.5
Russian Federation	2011	709	62.0	29.9	7.3	0.7	62.0	60.8	63.3
	2015	677	65.8	28.2	5.9	0.1	65.8	63.0	68.2
Saudi Arabia	2011	627	19.4	74.0	6.4	0.3	19.4	20.1	18.7
	2015	531	18.2	73.1	8.3	0.3	18.2	18.6	17.9
Singapore	2011	850	66.1	32.3	1.5	0.1	66.1	64.8	67.3
	2015	872	74.0	25.1	0.9	0.0	74.0	72.1	75.7
Slovenia	2011	633	57.0	40.2	2.8	0.0	57.0	50.7	62.4
	2015	604	58.5	39.6	1.9	0.0	58.5	58.5	58.4
South Africa	2011	1704	6.0	86.2	6.5	1.2	6.0	4.4	7.5
	2015	1791	7.2	85.4	6.2	1.2	7.2	7.7	6.7
Sweden	2011	797	49.6	42.0	8.2	0.2	49.6	45.0	54.2
	2015	585	53.6	38.9	6.7	0.8	53.6	49.5	57.1
Thailand	2011	859	19.0	69.5	10.9	0.5	19.0	21.1	16.5
	2015	918	21.5	69.5	8.9	0.1	21.5	21.4	21.6
Turkey	2011	990	42.7	42.3	14.5	0.5	42.7	44.4	40.7
	2015	869	42.1	48.8	9.1	0.0	42.1	42.8	41.5
United Arab Emirates	2011	1999	28.8	64.7	5.9	0.5	28.8	27.9	29.8
	2015	2583	35.1	59.5	5.2	0.2	35.1	32.3	37.8
United States	2011	1490	34.6	62.7	2.4	0.3	34.6	29.4	39.8
	2015	1475	40.0	57.0	2.2	0.7	40.0	37.1	42.8
International Avg (n=33)	2011	28519	36.9	53.1	9.6	0.4	36.9	35.3	38.5
	2015	31093	40.0	51.6	8.0	0.4	40.0	38.1	41.8
Ontario, Canada	2011	682	38.6	52.5	8.2	0.7	38.6	35.8	40.8
	2015	644	39.2	55.0	5.6	0.2	39.2	35.7	42.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_07 (S052145): Chemistry / Reasoning Type: CR 1 Point
Label: State of water, mercury, iron

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	52.0	42.0	5.4	0.5	52.0	48.2	56.2
	2015	555	53.2	43.0	2.7	1.1	53.2	43.9	64.2
Norway (8)	2011	540	35.6	54.6	9.5	0.3	35.6	36.8	34.3
	2015	685	38.9	47.6	13.3	0.2	38.9	36.6	41.4
Abu Dhabi, UAE	2011	624	26.7	67.2	5.3	0.7	26.7	23.0	29.9
	2015	692	27.9	66.6	5.4	0.2	27.9	28.2	27.5
Dubai, UAE	2011	789	34.6	58.2	6.5	0.7	34.6	36.8	32.5
	2015	881	47.3	48.3	4.1	0.3	47.3	40.6	54.7
Florida, US	2011	246	39.6	59.3	1.1	0.0	39.6	38.4	40.7
	2015	298	37.5	58.7	3.8	0.0	37.5	38.1	37.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_08 (S052049): Chemistry / Applying Type: CR 2 Points
Label: Separating iron and copper

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	13.8	34.7	48.8	2.6	0.0	48.5	13.8	12.1	15.5
	2015	1468	12.1	32.2	52.1	3.3	0.4	44.3	12.1	13.5	10.5
Bahrain	2011	654	21.7	27.8	46.3	3.2	1.0	49.5	21.7	27.8	15.3
	2015	702	11.4	34.2	50.5	3.3	0.7	45.5	11.4	15.4	7.5
Botswana	2011	764	7.3	18.3	70.0	3.7	0.7	25.6	7.3	7.8	6.8
	2015	847	6.6	20.7	68.4	3.5	0.8	27.3	6.6	5.9	7.3
Chile	2011	828	4.2	26.7	57.1	10.8	1.3	30.9	4.2	4.3	4.2
	2015	676	11.1	18.5	53.2	16.7	0.5	29.6	11.1	12.1	10.1
Chinese Taipei	2011	718	28.3	42.3	27.1	2.2	0.1	70.6	28.3	30.9	25.9
	2015	821	24.7	47.2	25.3	2.7	0.2	71.9	24.7	27.1	22.1
England	2011	542	24.3	34.2	36.3	4.3	0.8	58.5	24.3	24.6	24.1
	2015	692	22.1	32.4	41.1	4.0	0.4	54.5	22.1	24.4	19.2
Georgia	2011	653	14.8	28.5	38.3	17.4	0.9	43.4	14.8	11.7	17.7
	2015	572	19.7	35.4	36.5	8.1	0.4	55.0	19.7	19.1	20.2
Hong Kong SAR	2011	576	12.5	34.6	49.8	3.0	0.2	47.0	12.5	15.5	9.3
	2015	597	11.6	35.7	50.9	1.8	0.0	47.3	11.6	11.8	11.3
Hungary	2011	730	17.1	46.0	33.8	3.0	0.0	63.2	17.1	15.1	18.9
	2015	704	17.7	48.6	30.8	2.9	0.0	66.3	17.7	21.4	13.8
Iran, Islamic Rep. of	2011	874	5.7	41.9	47.9	4.5	0.1	47.5	5.7	6.4	5.0
	2015	886	3.9	40.8	50.2	4.7	0.3	44.8	3.9	5.2	2.7
Israel	2011	664	18.1	35.0	43.5	2.6	0.8	53.1	18.1	21.9	14.6
	2015	787	18.5	37.9	38.6	4.5	0.5	56.3	18.5	22.6	14.0
Italy	2011	563	15.5	40.0	33.2	11.1	0.2	55.6	15.5	18.7	12.5
	2015	627	9.4	46.4	36.3	7.9	0.0	55.8	9.4	8.9	9.9
Japan	2011	628	32.4	25.6	38.2	3.8	0.0	57.9	32.4	29.6	35.3
	2015	681	19.7	43.5	33.2	3.1	0.5	63.2	19.7	19.1	20.3
Jordan	2011	1092	12.7	36.1	45.2	5.3	0.8	48.8	12.7	17.3	8.4
	2015	1134	9.0	31.3	52.2	7.4	0.2	40.3	9.0	9.4	8.6
Kazakhstan	2011	617	30.6	32.8	24.5	11.7	0.4	63.4	30.6	31.1	30.1
	2015	697	32.6	38.7	24.8	3.3	0.6	71.3	32.6	31.0	34.4
Korea, Rep. of	2011	741	21.5	47.2	29.7	1.5	0.1	68.7	21.5	24.6	18.2
	2015	757	13.9	43.0	41.5	1.6	0.0	56.9	13.9	16.4	12.0
Lebanon	2011	557	11.7	19.1	56.5	11.5	1.2	30.8	11.7	10.9	12.6
	2015	548	10.3	25.5	45.8	13.9	4.3	35.9	10.3	11.5	9.1
Lithuania	2011	673	5.9	45.7	44.2	4.0	0.3	51.5	5.9	7.1	4.8
	2015	621	6.6	41.7	48.6	3.1	0.1	48.3	6.6	9.2	3.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_08 (S052049): Chemistry / Applying Type: CR 2 Points
Label: Separating iron and copper

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	12.0	26.4	53.4	6.7	1.6	38.4	12.0	12.6	11.4
	2015	1377	14.8	34.3	43.9	6.6	0.5	49.0	14.8	15.3	14.3
Morocco	2011	1335	3.0	22.8	66.3	6.8	1.1	25.7	3.0	3.4	2.6
	2015	1879	0.3	17.4	74.8	7.0	0.6	17.6	0.3	0.5	0.1
New Zealand	2011	755	21.1	29.9	43.6	5.1	0.4	51.0	21.1	20.9	21.2
	2015	1122	23.1	26.5	46.8	3.2	0.4	49.5	23.1	25.4	20.6
Oman	2011	1363	14.9	23.4	55.0	6.1	0.6	38.3	14.9	21.7	7.7
	2015	1255	12.2	25.2	55.6	6.6	0.4	37.4	12.2	14.6	10.0
Qatar	2011	624	15.0	25.4	55.1	4.3	0.2	40.3	15.0	19.0	11.3
	2015	768	11.7	31.1	50.9	5.6	0.7	42.8	11.7	12.3	11.2
Russian Federation	2011	709	15.8	49.3	28.4	5.2	1.3	65.0	15.8	13.3	18.2
	2015	677	35.8	32.5	28.0	3.6	0.1	68.3	35.8	33.6	37.8
Saudi Arabia	2011	628	4.1	19.8	72.4	3.4	0.3	23.9	4.1	3.3	4.9
	2015	531	3.7	24.0	69.4	2.5	0.5	27.6	3.7	4.0	3.3
Singapore	2011	850	33.1	31.8	33.6	1.3	0.1	65.0	33.1	36.7	29.7
	2015	872	43.4	30.6	25.4	0.6	0.0	74.0	43.4	43.5	43.3
Slovenia	2011	633	20.8	47.3	29.8	2.1	0.0	68.0	20.8	21.3	20.4
	2015	604	33.9	35.5	28.5	2.1	0.0	69.4	33.9	35.7	32.1
South Africa	2011	1704	6.0	7.0	77.8	7.7	1.5	13.0	6.0	6.0	5.9
	2015	1791	1.3	14.4	78.3	4.4	1.6	15.7	1.3	1.6	0.9
Sweden	2011	797	11.2	38.0	46.2	4.3	0.2	49.3	11.2	11.2	11.3
	2015	585	15.9	35.0	42.4	6.0	0.8	50.9	15.9	18.6	13.9
Thailand	2011	859	9.6	33.8	39.6	16.4	0.6	43.4	9.6	10.9	8.0
	2015	918	6.9	32.1	48.9	11.8	0.2	39.0	6.9	10.7	2.3
Turkey	2011	990	10.8	41.0	37.8	9.7	0.7	51.9	10.8	12.7	8.8
	2015	869	22.0	26.8	45.1	6.1	0.0	48.8	22.0	25.9	18.4
United Arab Emirates	2011	1999	12.0	33.8	50.0	3.3	0.8	45.8	12.0	12.6	11.5
	2015	2581	10.2	33.9	50.7	4.9	0.3	44.1	10.2	11.3	9.2
United States	2011	1490	13.9	37.0	45.7	3.2	0.3	50.8	13.9	13.7	14.0
	2015	1475	10.3	37.5	48.5	2.7	0.9	47.8	10.3	10.8	9.8

International Avg (n=33)	2011	28521	15.2	32.8	45.6	5.8	0.6	48.0	15.2	16.3	14.1
	2015	31121	15.3	33.0	46.0	5.1	0.5	48.4	15.3	16.6	14.1

Ontario, Canada	2011	682	19.8	28.5	44.9	6.2	0.7	48.3	19.8	18.9	20.4
	2015	644	10.0	26.9	56.3	6.1	0.8	36.8	10.0	9.7	10.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_08 (S052049): Chemistry / Applying Type: CR 2 Points
Label: Separating iron and copper

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	20.2	33.2	41.5	4.5	0.6	53.4	20.2	20.9	19.5
	2015	555	13.9	33.1	46.8	5.0	1.2	47.0	13.9	15.0	12.7
Norway (8)	2011	540	8.6	37.2	48.9	5.0	0.3	45.8	8.6	11.1	5.9
	2015	685	10.3	35.4	46.7	7.2	0.4	45.8	10.3	10.1	10.5
Abu Dhabi, UAE	2011	624	12.2	31.7	52.5	2.7	0.9	43.9	12.2	9.8	14.3
	2015	692	7.1	30.0	56.4	6.0	0.5	37.1	7.1	7.8	6.5
Dubai, UAE	2011	789	14.0	32.8	48.1	4.0	1.2	46.8	14.0	15.3	12.7
	2015	879	16.8	37.4	42.1	3.3	0.4	54.3	16.8	17.7	15.8
Florida, US	2011	246	10.9	34.9	52.1	2.2	0.0	45.8	10.9	11.4	10.4
	2015	298	8.4	33.1	57.0	1.5	0.0	41.5	8.4	9.3	7.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_09 (S052063): Chemistry / Knowing Type: MC Key: C
Label: Chemical process releases energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	52.4	25.8	7.6	52.4	13.2	1.0	0.0	51.5	53.3
	2015	1468	52.7	28.2	8.1	52.7	9.0	1.6	0.4	49.8	55.7
Bahrain	2011	654	43.5	22.8	15.4	43.5	15.2	1.8	1.2	43.9	43.1
	2015	702	42.3	25.8	18.2	42.3	11.8	1.3	0.7	42.8	41.7
Botswana	2011	764	37.0	22.3	12.8	37.0	24.5	2.2	1.2	36.4	37.6
	2015	846	31.6	29.0	12.7	31.6	23.5	2.2	1.1	32.1	31.0
Chile	2011	828	34.7	44.1	8.6	34.7	7.4	3.9	1.3	35.4	34.0
	2015	676	45.4	33.0	10.6	45.4	7.1	3.2	0.6	44.1	46.8
Chinese Taipei	2011	718	65.7	14.5	9.9	65.7	9.5	0.3	0.1	63.2	67.9
	2015	821	66.6	16.1	7.7	66.6	9.0	0.5	0.2	64.5	68.9
England	2011	542	54.9	25.1	8.4	54.9	8.3	2.3	1.0	53.3	56.5
	2015	692	48.2	32.0	7.8	48.2	10.2	1.1	0.7	48.6	47.6
Georgia	2011	653	37.2	28.6	10.5	37.2	14.7	8.1	0.9	34.8	39.4
	2015	572	53.1	27.4	5.5	53.1	12.4	1.2	0.4	52.4	53.7
Hong Kong SAR	2011	576	58.9	20.1	8.0	58.9	11.5	1.3	0.2	57.9	59.9
	2015	597	67.2	16.2	4.6	67.2	11.2	0.7	0.0	63.2	70.7
Hungary	2011	730	48.4	31.2	4.1	48.4	13.6	2.6	0.0	51.1	46.0
	2015	704	52.7	29.2	2.9	52.7	14.4	0.8	0.0	53.5	51.8
Iran, Islamic Rep. of	2011	875	56.3	17.5	15.7	56.3	9.5	0.8	0.2	58.2	54.6
	2015	886	49.1	21.6	19.3	49.1	7.5	2.1	0.4	50.2	48.1
Israel	2011	664	64.2	16.8	8.6	64.2	7.8	1.5	1.1	68.5	60.3
	2015	787	60.3	19.3	8.6	60.3	9.2	1.9	0.7	59.5	61.2
Italy	2011	563	60.6	26.8	4.1	60.6	5.8	2.6	0.2	57.7	63.5
	2015	627	61.1	25.5	4.2	61.1	7.7	1.2	0.2	61.7	60.6
Japan	2011	628	67.7	17.4	5.4	67.7	8.3	1.2	0.0	66.5	69.0
	2015	681	72.8	17.7	2.5	72.8	6.0	0.5	0.5	70.1	75.7
Jordan	2011	1092	44.8	26.3	13.8	44.8	12.7	1.6	0.8	45.2	44.5
	2015	1134	45.2	29.1	10.2	45.2	13.2	2.1	0.3	45.9	44.4
Kazakhstan	2011	617	45.3	23.5	7.8	45.3	20.0	2.7	0.8	44.8	45.7
	2015	697	61.0	18.1	3.8	61.0	14.9	1.4	0.7	63.0	58.9
Korea, Rep. of	2011	741	57.6	27.6	6.7	57.6	7.9	0.1	0.1	56.5	58.7
	2015	757	67.7	21.1	4.8	67.7	6.2	0.2	0.0	66.6	68.6
Lebanon	2011	554	39.3	27.5	11.1	39.3	13.2	7.4	1.4	36.3	43.2
	2015	546	47.2	25.5	7.1	47.2	8.4	6.9	5.0	47.7	46.6
Lithuania	2011	673	43.6	32.8	8.2	43.6	12.9	2.3	0.3	42.3	44.6
	2015	621	49.0	23.9	8.5	49.0	14.8	3.7	0.2	43.7	54.6

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_09 (S052063): Chemistry / Knowing Type: MC Key: C
Label: Chemical process releases energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	36.1	32.8	13.4	36.1	14.1	2.0	1.6	34.0	38.0
	2015	1377	40.7	23.4	22.9	40.7	10.5	1.9	0.6	33.9	47.7
Morocco	2011	1332	34.9	44.9	6.5	34.9	7.9	4.1	1.6	36.0	34.0
	2015	1882	37.4	42.4	5.3	37.4	11.5	2.6	0.8	33.3	40.7
New Zealand	2011	755	52.5	25.9	10.6	52.5	8.0	2.6	0.4	46.3	58.1
	2015	1122	51.9	25.5	9.2	51.9	11.2	1.7	0.4	49.1	54.9
Oman	2011	1363	33.2	31.5	14.6	33.2	17.0	2.8	0.8	33.7	32.6
	2015	1255	44.2	28.7	9.5	44.2	15.6	1.3	0.7	47.4	41.4
Qatar	2011	624	38.6	26.1	18.3	38.6	16.0	0.8	0.2	35.4	41.6
	2015	769	44.2	29.3	15.8	44.2	8.9	1.2	0.7	42.1	46.2
Russian Federation	2011	709	56.0	19.6	5.1	56.0	16.2	1.9	1.3	55.3	56.7
	2015	677	65.9	17.1	3.7	65.9	11.9	1.3	0.1	66.8	65.2
Saudi Arabia	2011	627	40.7	30.9	11.0	40.7	15.7	1.4	0.3	44.1	37.4
	2015	529	34.5	32.3	16.4	34.5	15.4	1.0	0.5	35.9	32.9
Singapore	2011	850	59.7	16.2	10.7	59.7	12.7	0.6	0.1	56.9	62.4
	2015	872	64.1	14.6	9.3	64.1	11.5	0.6	0.0	60.8	67.1
Slovenia	2011	633	50.0	23.3	5.5	50.0	17.9	3.2	0.0	47.9	51.8
	2015	604	60.2	16.4	5.9	60.2	14.2	3.1	0.3	57.2	63.0
South Africa	2011	1704	18.8	46.9	14.8	18.8	14.4	2.5	2.7	16.7	20.6
	2015	1791	20.8	48.2	10.1	20.8	16.2	2.7	1.9	21.5	20.2
Sweden	2011	797	47.1	32.1	4.9	47.1	13.2	2.5	0.2	44.3	50.0
	2015	585	48.5	32.9	3.9	48.5	10.7	3.2	0.8	46.6	50.1
Thailand	2011	859	31.8	29.8	8.6	31.8	27.4	1.6	0.8	32.2	31.3
	2015	918	34.7	27.5	7.4	34.7	27.5	2.6	0.2	33.0	36.8
Turkey	2011	990	47.3	17.5	16.2	47.3	16.9	1.4	0.7	48.5	46.0
	2015	869	53.2	18.0	14.6	53.2	13.5	0.6	0.1	56.6	50.1
United Arab Emirates	2011	1999	44.1	25.1	13.5	44.1	14.1	2.1	1.0	46.9	41.3
	2015	2583	44.7	25.4	16.9	44.7	11.2	1.5	0.4	44.7	44.6
United States	2011	1490	50.4	30.5	9.1	50.4	7.9	1.8	0.4	49.0	51.8
	2015	1475	51.9	29.7	7.1	51.9	8.9	1.4	1.1	50.6	53.2

International Avg (n=33)	2011	28515	47.1	26.8	10.0	47.1	13.2	2.3	0.7	46.4	47.7
	2015	31122	50.6	25.8	9.2	50.6	12.0	1.8	0.6	49.7	51.5

Ontario, Canada	2011	682	52.9	30.0	6.7	52.9	7.6	2.0	0.8	53.6	52.4
	2015	641	53.6	29.5	6.0	53.6	8.3	1.5	1.1	55.4	51.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_09 (S052063): Chemistry / Knowing Type: MC Key: C
Label: Chemical process releases energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	62.6	21.5	7.3	62.6	5.8	2.2	0.6	63.2	62.0
	2015	552	69.5	16.8	6.0	69.5	5.3	1.2	1.2	69.0	70.1
Norway (8)	2011	540	34.7	45.5	5.7	34.7	12.0	1.8	0.3	31.2	38.3
	2015	685	30.0	47.0	5.2	30.0	12.7	4.1	1.0	25.1	35.3
Abu Dhabi, UAE	2011	624	43.4	24.6	14.5	43.4	13.9	2.5	1.1	45.6	41.4
	2015	692	38.2	30.1	18.0	38.2	11.7	1.5	0.6	42.7	34.0
Dubai, UAE	2011	789	46.2	26.2	11.6	46.2	13.3	1.4	1.3	49.9	42.8
	2015	881	51.3	25.4	12.8	51.3	8.8	1.3	0.4	47.4	55.6
Florida, US	2011	246	54.2	22.3	8.2	54.2	14.2	1.0	0.0	55.1	53.5
	2015	298	49.0	31.2	13.0	49.0	5.6	1.2	0.0	43.9	53.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_10 (S052192): Physics / Reasoning Type: MC Key: A
Label: Mirror behind screen

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	64.6	64.6	11.3	12.9	9.3	1.8	0.0	55.7	73.7
	2015	1468	64.7	64.7	8.9	14.2	9.6	2.1	0.5	59.4	70.3
Bahrain	2011	654	34.6	34.6	13.9	33.0	13.6	3.6	1.2	33.5	35.8
	2015	702	38.2	38.2	16.5	28.6	14.1	1.7	0.8	36.7	39.6
Botswana	2011	764	19.4	19.4	9.3	41.1	27.0	1.5	1.6	14.0	25.3
	2015	847	20.9	20.9	12.2	38.6	25.0	2.1	1.2	16.3	25.9
Chile	2011	828	39.9	39.9	6.9	32.3	15.6	3.6	1.7	33.9	46.5
	2015	676	41.8	41.8	10.5	31.8	12.6	2.8	0.6	29.9	54.0
Chinese Taipei	2011	718	69.3	69.3	8.7	13.4	7.8	0.7	0.1	61.4	76.3
	2015	821	72.5	72.5	9.3	11.5	6.4	0.2	0.2	66.4	78.9
England	2011	542	68.1	68.1	8.4	12.8	7.0	2.5	1.2	65.5	70.6
	2015	692	67.6	67.6	9.6	11.7	8.6	1.6	0.9	60.2	76.4
Georgia	2011	653	25.3	25.3	8.4	36.1	21.6	7.5	1.0	18.8	31.2
	2015	572	28.6	28.6	10.0	38.8	15.8	6.3	0.5	19.2	38.1
Hong Kong SAR	2011	576	67.2	67.2	13.8	10.8	7.0	1.1	0.2	61.4	73.4
	2015	597	71.1	71.1	10.1	10.8	7.4	0.5	0.0	62.9	78.1
Hungary	2011	730	58.9	58.9	6.1	20.5	12.3	2.2	0.0	49.9	66.7
	2015	704	63.0	63.0	7.6	18.7	10.2	0.5	0.0	54.7	71.7
Iran, Islamic Rep. of	2011	875	30.1	30.1	12.6	36.6	18.6	1.9	0.2	23.0	36.4
	2015	886	32.2	32.2	10.4	33.9	19.7	3.3	0.5	27.5	36.5
Israel	2011	665	45.9	45.9	10.6	27.3	13.4	1.7	1.1	39.9	51.2
	2015	787	49.2	49.2	10.2	23.2	13.9	2.7	0.7	43.9	55.0
Italy	2011	563	58.0	58.0	8.6	19.3	11.9	2.1	0.2	49.2	66.3
	2015	627	53.5	53.5	10.1	23.6	9.4	3.3	0.2	46.2	60.5
Japan	2011	628	75.3	75.3	11.9	6.6	5.0	1.2	0.0	67.9	83.0
	2015	681	75.5	75.5	8.8	7.8	6.7	0.6	0.6	71.2	80.1
Jordan	2011	1092	31.2	31.2	10.5	39.0	15.8	2.7	0.8	26.3	35.8
	2015	1134	25.7	25.7	10.8	41.2	19.3	2.6	0.4	22.7	29.0
Kazakhstan	2011	617	39.1	39.1	7.7	33.4	13.6	5.4	0.8	32.8	45.6
	2015	696	58.8	58.8	7.2	20.2	10.2	2.8	0.7	53.9	64.2
Korea, Rep. of	2011	741	76.8	76.8	7.4	9.3	6.3	0.1	0.1	74.5	79.3
	2015	757	76.8	76.8	5.7	10.7	6.5	0.3	0.0	73.1	79.9
Lebanon	2011	550	22.5	22.5	6.6	42.9	20.0	5.7	2.3	14.4	32.5
	2015	546	25.3	25.3	7.8	32.3	18.9	10.4	5.2	23.1	27.6
Lithuania	2011	673	60.7	60.7	6.3	20.2	9.4	3.1	0.3	55.6	64.7
	2015	621	65.7	65.7	6.6	15.7	10.1	1.6	0.2	57.5	74.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_10 (S052192): Physics / Reasoning Type: MC Key: A
Label: Mirror behind screen

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	35.6	35.6	12.4	32.9	16.1	1.1	1.9	31.8	39.0
	2015	1377	45.5	45.5	11.2	28.6	12.9	1.3	0.6	37.4	53.8
Morocco	2011	1335	13.8	13.8	6.6	51.9	20.1	5.8	1.8	10.4	16.9
	2015	1864	23.3	23.3	9.4	42.5	21.1	3.0	0.7	20.6	25.5
New Zealand	2011	755	71.6	71.6	5.7	12.4	6.3	3.8	0.4	62.4	79.6
	2015	1122	72.4	72.4	6.4	10.6	8.9	1.3	0.5	68.8	76.2
Oman	2011	1363	25.1	25.1	12.9	37.5	19.7	3.8	1.0	23.8	26.5
	2015	1244	35.3	35.3	12.9	32.1	17.5	1.6	0.6	33.1	37.4
Qatar	2011	624	41.3	41.3	10.8	27.1	16.9	3.7	0.2	38.1	44.3
	2015	769	42.2	42.2	9.4	31.8	14.2	1.6	0.7	34.3	49.8
Russian Federation	2011	709	65.0	65.0	7.3	14.6	8.2	3.6	1.3	57.2	72.8
	2015	677	65.9	65.9	7.2	15.8	8.2	2.8	0.1	56.6	73.9
Saudi Arabia	2011	627	26.6	26.6	14.2	37.6	20.2	1.0	0.5	25.5	27.6
	2015	531	9.0	9.0	36.2	27.9	25.3	1.0	0.5	8.6	9.5
Singapore	2011	850	77.9	77.9	7.6	8.7	4.8	0.9	0.1	74.9	80.9
	2015	872	85.1	85.1	4.9	5.6	4.1	0.3	0.0	80.2	89.6
Slovenia	2011	633	47.5	47.5	7.8	28.8	13.7	2.2	0.0	37.6	56.0
	2015	604	64.9	64.9	8.0	16.2	9.7	0.9	0.3	59.5	70.3
South Africa	2011	1704	10.2	10.2	8.7	44.1	28.3	5.6	3.1	7.6	12.4
	2015	1791	15.7	15.7	8.9	43.0	26.7	3.3	2.4	12.6	18.9
Sweden	2011	797	71.7	71.7	7.6	10.4	7.2	2.9	0.3	65.4	78.0
	2015	585	75.2	75.2	6.2	7.0	5.3	5.6	0.8	70.3	79.7
Thailand	2011	859	36.2	36.2	10.5	34.1	15.1	3.0	1.0	32.1	41.0
	2015	918	41.2	41.2	10.6	32.3	13.2	2.6	0.2	33.9	50.1
Turkey	2011	990	40.7	40.7	10.3	28.9	17.1	2.2	0.7	34.9	47.2
	2015	869	44.6	44.6	11.2	25.3	18.6	0.1	0.2	38.7	50.0
United Arab Emirates	2011	1999	40.1	40.1	11.1	29.0	16.1	2.3	1.4	37.3	42.9
	2015	2583	46.6	46.6	10.4	24.8	15.1	2.7	0.4	44.5	48.6
United States	2011	1490	61.4	61.4	9.0	17.7	10.1	1.3	0.5	55.0	67.8
	2015	1475	64.1	64.1	6.8	16.9	9.3	1.7	1.2	58.3	69.4

International Avg (n=33)	2011	28515	47.0	47.0	9.4	26.2	13.8	2.8	0.8	41.6	52.3
	2015	31095	50.4	50.4	10.1	23.4	13.2	2.3	0.7	44.9	55.8

Ontario, Canada	2011	682	64.9	64.9	10.4	12.5	9.2	1.9	1.1	61.0	68.1
	2015	642	67.7	67.7	6.1	15.6	8.6	0.7	1.3	62.5	72.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_10 (S052192): Physics / Reasoning Type: MC Key: A
Label: Mirror behind screen

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	64.6	64.6	10.7	14.4	8.4	1.2	0.6	58.1	71.5
	2015	554	67.2	67.2	7.7	15.1	6.6	2.2	1.2	56.5	79.7
Norway (8)	2011	540	62.9	62.9	9.8	14.2	9.3	3.5	0.4	56.8	69.3
	2015	685	62.0	62.0	8.2	16.2	9.3	3.4	1.0	57.8	66.7
Abu Dhabi, UAE	2011	624	42.5	42.5	11.5	26.1	16.0	2.3	1.6	34.6	49.5
	2015	692	44.1	44.1	10.5	25.4	16.5	2.9	0.6	43.2	44.9
Dubai, UAE	2011	789	48.4	48.4	10.4	25.1	12.7	2.1	1.3	45.0	51.6
	2015	881	57.8	57.8	9.1	19.6	11.0	2.2	0.4	54.9	61.0
Florida, US	2011	246	62.0	62.0	9.7	18.5	8.8	1.0	0.0	59.8	64.1
	2015	298	51.6	51.6	10.8	24.0	12.3	1.3	0.0	43.6	59.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_l1 (S052232): Physics / Reasoning Type: MC Key: D
Label: Bell on Rami's bike

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	33.7	17.4	8.9	36.9	33.7	2.9	0.1	33.7	33.8
	2015	1468	31.4	19.3	7.2	38.6	31.4	2.9	0.5	33.9	28.9
Bahrain	2011	654	30.2	22.9	15.4	28.5	30.2	1.7	1.3	30.4	30.0
	2015	702	31.2	22.6	15.1	28.5	31.2	1.8	0.8	29.4	32.9
Botswana	2011	763	31.1	27.5	7.8	29.7	31.1	1.9	2.0	31.3	30.9
	2015	847	27.5	31.5	8.4	28.8	27.5	2.3	1.5	28.6	26.4
Chile	2011	828	34.2	9.0	11.3	40.0	34.2	3.8	1.7	34.8	33.5
	2015	676	32.0	10.6	13.4	40.3	32.0	3.1	0.6	31.8	32.3
Chinese Taipei	2011	718	18.1	33.0	18.6	30.2	18.1	0.0	0.1	17.1	18.9
	2015	821	17.3	30.5	20.2	31.7	17.3	0.2	0.2	17.5	17.1
England	2011	542	27.6	8.8	8.5	51.0	27.6	2.8	1.2	28.5	26.7
	2015	692	28.2	7.8	13.1	48.7	28.2	1.2	0.9	27.9	28.6
Georgia	2011	653	56.9	16.5	11.2	12.9	56.9	1.5	1.0	56.3	57.5
	2015	572	50.4	16.4	11.3	19.2	50.4	2.2	0.5	50.3	50.5
Hong Kong SAR	2011	575	46.3	12.0	11.5	29.4	46.3	0.6	0.2	45.1	47.7
	2015	597	50.5	8.9	11.5	28.2	50.5	0.8	0.0	50.4	50.7
Hungary	2011	730	60.5	11.3	9.8	17.8	60.5	0.7	0.0	56.0	64.3
	2015	704	65.7	9.3	12.5	12.3	65.7	0.2	0.0	62.7	68.9
Iran, Islamic Rep. of	2011	875	50.4	10.9	8.6	27.8	50.4	1.9	0.4	48.3	52.1
	2015	886	51.8	12.7	10.9	22.5	51.8	1.7	0.5	52.1	51.6
Israel	2011	665	37.2	12.8	14.0	33.6	37.2	1.3	1.1	34.3	39.7
	2015	787	36.5	15.9	12.9	31.6	36.5	2.1	1.0	34.3	39.0
Italy	2011	562	54.2	14.0	12.0	17.9	54.2	1.6	0.2	52.0	56.3
	2015	627	48.5	13.8	13.1	22.7	48.5	1.6	0.2	47.1	49.9
Japan	2011	628	60.0	10.7	9.3	19.2	60.0	0.9	0.0	58.9	61.1
	2015	681	64.4	6.6	10.0	17.7	64.4	0.7	0.6	62.7	66.1
Jordan	2011	1092	30.5	30.2	14.4	22.4	30.5	1.8	0.8	27.6	33.2
	2015	1134	31.9	27.8	13.9	23.5	31.9	2.3	0.5	30.5	33.5
Kazakhstan	2011	617	55.9	18.8	3.9	19.0	55.9	1.6	0.8	55.6	56.3
	2015	696	56.5	18.5	6.4	16.3	56.5	1.4	0.9	55.7	57.4
Korea, Rep. of	2011	741	54.5	4.4	10.0	30.7	54.5	0.3	0.1	57.1	51.8
	2015	757	44.4	4.6	10.1	40.8	44.4	0.1	0.0	39.9	48.1
Lebanon	2011	551	47.1	16.1	9.6	21.7	47.1	2.7	2.7	45.2	49.4
	2015	546	43.4	14.3	10.4	19.3	43.4	7.1	5.6	49.6	36.6
Lithuania	2011	673	60.4	15.6	6.1	17.3	60.4	0.3	0.3	55.0	64.6
	2015	621	61.4	12.8	7.5	17.7	61.4	0.5	0.2	60.6	62.2

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_l1 (S052232): Physics / Reasoning Type: MC Key: D
Label: Bell on Rami's bike

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	47.9	16.2	17.0	15.5	47.9	1.2	2.1	45.1	50.5
	2015	1377	46.0	15.9	25.3	11.3	46.0	0.9	0.6	43.6	48.4
Morocco	2011	1335	33.3	23.7	10.6	27.2	33.3	2.9	2.3	35.3	31.4
	2015	1864	31.9	25.7	10.4	29.2	31.9	1.7	1.0	27.3	35.7
New Zealand	2011	755	30.2	19.2	8.8	36.9	30.2	4.5	0.4	35.1	25.9
	2015	1122	31.8	21.7	8.0	35.3	31.8	2.6	0.6	32.3	31.2
Oman	2011	1363	24.7	34.9	11.7	25.2	24.7	2.2	1.4	25.7	23.6
	2015	1253	26.3	36.7	9.2	24.8	26.3	2.2	0.8	24.3	28.0
Qatar	2011	624	28.7	24.3	12.9	31.6	28.7	2.2	0.2	33.0	24.7
	2015	769	32.9	23.2	12.4	28.7	32.9	2.0	0.9	30.7	35.0
Russian Federation	2011	709	65.9	12.7	9.0	9.4	65.9	1.6	1.5	60.8	70.9
	2015	677	68.0	11.2	7.8	11.5	68.0	1.3	0.1	63.5	71.9
Saudi Arabia	2011	627	27.5	30.7	10.3	30.6	27.5	0.5	0.5	21.6	32.9
	2015	531	26.1	25.2	14.4	32.8	26.1	0.9	0.5	26.3	25.9
Singapore	2011	850	40.3	17.1	9.9	31.8	40.3	0.7	0.1	43.3	37.5
	2015	872	34.3	15.0	8.8	41.0	34.3	0.9	0.0	35.1	33.5
Slovenia	2011	0	.	.	.	.	.	.	.	.	.
	2015	604	45.9	4.8	9.7	38.5	45.9	0.8	0.3	47.4	44.5
South Africa	2011	1704	22.9	34.8	10.7	25.7	22.9	2.3	3.7	23.2	22.6
	2015	1791	25.0	34.0	9.7	26.3	25.0	2.2	2.8	23.7	26.2
Sweden	2011	797	36.7	13.2	10.8	36.2	36.7	2.7	0.4	37.2	36.2
	2015	585	26.2	11.6	10.6	41.1	26.2	9.2	1.2	27.7	24.8
Thailand	2011	859	37.3	11.3	13.8	32.2	37.3	4.3	1.0	36.0	38.9
	2015	918	38.6	12.5	11.8	33.8	38.6	3.1	0.2	39.5	37.5
Turkey	2011	990	30.2	16.3	9.3	41.8	30.2	1.6	0.8	29.4	31.2
	2015	869	29.8	19.1	10.1	40.1	29.8	0.7	0.2	27.4	32.1
United Arab Emirates	2011	1999	33.6	20.1	11.2	31.7	33.6	1.9	1.5	33.3	33.9
	2015	2583	32.4	20.9	12.1	32.5	32.4	1.7	0.4	32.7	32.0
United States	2011	1490	30.9	15.5	8.4	43.1	30.9	1.7	0.5	32.1	29.7
	2015	1475	31.1	16.0	8.9	40.9	31.1	1.6	1.4	34.8	27.5

International Avg (n=33)	2011	27880	40.0	18.2	10.8	28.3	40.0	1.8	0.9	39.3	40.6
	2015	31104	39.4	17.5	11.4	29.0	39.4	1.9	0.8	38.8	39.8

Ontario, Canada	2011	682	27.0	22.0	8.0	39.3	27.0	2.3	1.4	29.8	24.7
	2015	644	30.5	21.2	7.0	38.8	30.5	1.1	1.6	29.0	31.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_l1 (S052232): Physics / Reasoning Type: MC Key: D
Label: Bell on Rami's bike

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	37.2	7.8	11.2	41.2	37.2	1.9	0.6	36.0	38.5
	2015	553	38.2	8.6	13.3	37.3	38.2	1.4	1.2	34.1	42.9
Norway (8)	2011	540	42.4	10.0	9.8	34.2	42.4	3.0	0.5	42.8	41.9
	2015	685	39.6	10.2	10.4	36.3	39.6	2.6	1.0	40.7	38.4
Abu Dhabi, UAE	2011	624	33.7	18.7	12.0	31.8	33.7	2.1	1.7	32.3	35.0
	2015	692	31.7	22.3	13.6	30.4	31.7	1.5	0.6	29.1	34.1
Dubai, UAE	2011	789	32.2	18.2	9.9	35.0	32.2	3.2	1.5	34.3	30.1
	2015	881	31.7	16.8	10.2	39.1	31.7	1.9	0.4	33.8	29.3
Florida, US	2011	246	27.0	18.1	11.9	43.0	27.0	0.0	0.0	26.5	27.4
	2015	298	29.9	16.6	12.2	39.8	29.9	1.2	0.3	28.5	31.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_l2 (S052141): Physics / Applying Type: CR 1 Point
Label: Pressure from wooden block

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	25.0	74.7	0.2	0.1	25.0	17.1	33.0
	2015	1468	21.6	76.7	1.1	0.6	21.6	19.1	24.2
Bahrain	2011	654	16.1	81.2	1.1	1.6	16.1	17.1	15.0
	2015	702	19.2	78.7	1.2	0.8	19.2	20.7	17.9
Botswana	2011	764	3.1	92.7	2.0	2.2	3.1	2.1	4.3
	2015	847	2.6	94.1	1.5	1.8	2.6	2.3	2.9
Chile	2011	828	10.2	84.2	3.4	2.2	10.2	7.9	12.8
	2015	676	17.5	77.9	4.0	0.6	17.5	14.7	20.3
Chinese Taipei	2011	718	39.4	60.1	0.4	0.1	39.4	37.0	41.5
	2015	821	41.3	57.8	0.7	0.2	41.3	39.0	43.8
England	2011	542	39.4	56.9	2.3	1.4	39.4	38.8	39.9
	2015	692	40.7	57.5	1.0	0.9	40.7	38.5	43.2
Georgia	2011	652	19.1	72.8	7.1	1.0	19.1	17.5	20.5
	2015	572	12.1	82.2	5.3	0.5	12.1	8.3	15.9
Hong Kong SAR	2011	576	21.5	76.8	1.5	0.2	21.5	20.3	22.8
	2015	597	28.8	70.4	0.8	0.0	28.8	26.1	31.0
Hungary	2011	730	45.1	53.9	1.1	0.0	45.1	35.9	53.1
	2015	704	43.1	55.6	1.3	0.0	43.1	34.3	52.3
Iran, Islamic Rep. of	2011	875	35.2	63.0	1.3	0.5	35.2	35.3	35.1
	2015	886	9.2	87.3	2.9	0.6	9.2	6.2	11.9
Israel	2011	665	18.7	78.1	2.1	1.1	18.7	18.3	19.2
	2015	787	21.4	75.8	1.5	1.3	21.4	19.5	23.5
Italy	2011	563	22.9	74.3	2.6	0.2	22.9	20.5	25.3
	2015	627	24.5	71.6	3.6	0.2	24.5	17.1	31.8
Japan	2011	628	63.5	36.3	0.1	0.0	63.5	61.9	65.3
	2015	681	63.6	35.6	0.1	0.6	63.6	67.4	59.7
Jordan	2011	1092	11.9	84.6	2.8	0.8	11.9	9.5	14.1
	2015	1134	7.9	89.8	1.7	0.6	7.9	9.8	5.9
Kazakhstan	2011	617	33.1	56.2	9.9	0.8	33.1	31.2	35.0
	2015	697	38.0	58.6	2.6	0.9	38.0	39.4	36.5
Korea, Rep. of	2011	741	62.7	37.1	0.1	0.1	62.7	63.2	62.1
	2015	757	37.0	62.4	0.6	0.0	37.0	36.7	37.3
Lebanon	2011	557	4.2	86.8	6.1	2.9	4.2	3.4	5.3
	2015	549	3.4	85.9	4.8	5.8	3.4	2.7	4.2
Lithuania	2011	673	22.0	76.6	1.2	0.3	22.0	18.7	24.6
	2015	621	19.3	79.0	1.3	0.4	19.3	14.3	24.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_l2 (S052141): Physics / Applying Type: CR 1 Point
Label: Pressure from wooden block

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	6.8	85.0	5.8	2.4	6.8	7.4	6.2
	2015	1377	7.2	88.4	3.8	0.6	7.2	7.6	6.8
Morocco	2011	1334	6.8	84.7	5.9	2.6	6.8	5.7	7.8
	2015	1872	0.5	96.6	1.6	1.3	0.5	0.7	0.3
New Zealand	2011	755	21.8	75.2	2.7	0.4	21.8	13.8	28.9
	2015	1122	31.3	66.9	0.9	0.8	31.3	26.0	36.9
Oman	2011	1363	7.1	88.7	2.6	1.6	7.1	7.1	7.2
	2015	1253	9.5	88.2	1.4	0.8	9.5	10.6	8.6
Qatar	2011	624	9.2	88.2	2.3	0.3	9.2	8.0	10.3
	2015	768	13.8	84.3	1.0	0.9	13.8	12.7	14.8
Russian Federation	2011	709	38.3	58.1	2.1	1.5	38.3	33.9	42.7
	2015	677	35.0	63.4	1.5	0.1	35.0	30.5	38.9
Saudi Arabia	2011	628	5.8	93.0	0.7	0.5	5.8	4.1	7.4
	2015	531	10.3	87.6	1.5	0.5	10.3	12.2	8.3
Singapore	2011	850	53.1	46.8	0.0	0.1	53.1	52.7	53.5
	2015	872	56.2	43.5	0.2	0.1	56.2	55.9	56.4
Slovenia	2011	633	50.8	48.1	1.1	0.0	50.8	48.3	52.9
	2015	604	26.1	72.5	1.1	0.3	26.1	24.8	27.3
South Africa	2011	1704	9.5	83.6	2.9	3.9	9.5	6.6	12.1
	2015	1791	5.8	89.8	1.4	3.0	5.8	5.7	5.8
Sweden	2011	797	40.5	57.0	2.0	0.4	40.5	37.8	43.2
	2015	581	49.3	48.0	1.2	1.5	49.3	46.2	52.2
Thailand	2011	859	9.5	80.1	9.3	1.2	9.5	8.4	10.9
	2015	0	.	.	.	.	.	.	.
Turkey	2011	990	33.7	62.4	3.1	0.8	33.7	34.8	32.5
	2015	869	49.0	49.8	0.9	0.2	49.0	55.1	43.5
United Arab Emirates	2011	1999	14.2	82.1	1.9	1.8	14.2	14.4	14.0
	2015	2583	18.6	79.4	1.6	0.5	18.6	18.0	19.1
United States	2011	1490	16.5	82.1	0.9	0.5	16.5	12.2	20.7
	2015	1475	16.3	81.3	0.9	1.5	16.3	14.3	18.2

International Avg (n=33)	2011	28521	24.7	71.6	2.7	1.0	24.7	22.7	26.6
	2015	30193	24.4	73.0	1.7	0.9	24.4	23.0	25.7

Ontario, Canada	2011	682	37.9	59.5	1.0	1.6	37.9	36.4	39.1
	2015	644	38.1	59.3	0.9	1.7	38.1	37.2	38.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_l2 (S052141): Physics / Applying Type: CR 1 Point
Label: Pressure from wooden block

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	37.5	60.2	1.5	0.8	37.5	31.9	43.4
	2015	555	34.4	62.0	2.1	1.4	34.4	27.5	42.6
Norway (8)	2011	540	28.8	69.4	1.3	0.5	28.8	20.5	37.6
	2015	685	28.3	68.1	2.0	1.5	28.3	23.4	33.8
Abu Dhabi, UAE	2011	624	12.7	82.6	2.5	2.1	12.7	8.8	16.3
	2015	692	12.0	85.7	1.6	0.8	12.0	10.9	12.9
Dubai, UAE	2011	789	23.5	72.2	2.2	2.1	23.5	29.4	17.9
	2015	881	29.8	68.4	1.4	0.4	29.8	30.6	28.8
Florida, US	2011	246	14.3	85.0	0.7	0.0	14.3	7.7	20.2
	2015	298	6.5	91.5	1.6	0.3	6.5	5.1	7.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_l3 (S052096): Earth Science / Knowing Type: MC Key: A
Label: Non-renewable energy source

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	71.6	71.6	5.8	14.2	8.1	0.2	0.1	66.9	76.4
	2015	1468	71.0	71.0	5.5	13.4	8.0	1.5	0.6	66.0	76.1
Bahrain	2011	654	57.2	57.2	11.7	11.5	17.3	0.5	1.8	62.3	52.0
	2015	702	57.4	57.4	8.8	15.7	16.5	0.8	0.8	57.3	57.5
Botswana	2011	764	39.9	39.9	10.4	25.1	20.9	1.0	2.6	39.6	40.2
	2015	847	48.3	48.3	11.0	23.2	14.0	1.2	2.3	46.5	50.2
Chile	2011	828	63.9	63.9	7.1	9.7	15.1	1.7	2.5	56.8	71.8
	2015	676	67.7	67.7	6.4	10.6	13.2	1.2	0.9	60.0	75.7
Chinese Taipei	2011	718	85.3	85.3	3.6	8.7	2.3	0.0	0.1	83.1	87.2
	2015	821	84.4	84.4	4.1	7.2	4.1	0.0	0.2	81.9	87.1
England	2011	542	76.9	76.9	4.6	9.9	6.3	0.7	1.6	72.5	81.1
	2015	692	77.3	77.3	4.7	10.5	6.1	0.7	0.9	74.4	80.7
Georgia	2011	652	65.9	65.9	10.5	7.2	13.5	1.8	1.0	64.6	67.1
	2015	572	67.2	67.2	9.6	6.6	15.2	0.4	0.9	65.5	69.0
Hong Kong SAR	2011	576	93.2	93.2	2.3	1.9	1.9	0.4	0.4	93.9	92.6
	2015	597	94.5	94.5	1.7	1.5	1.7	0.6	0.0	94.2	94.8
Hungary	2011	730	73.6	73.6	7.6	7.8	10.2	0.8	0.0	71.3	75.6
	2015	704	78.4	78.4	6.1	5.1	8.9	1.1	0.5	76.3	80.5
Iran, Islamic Rep. of	2011	875	41.0	41.0	5.4	15.9	35.4	1.5	0.9	47.5	35.3
	2015	886	55.2	55.2	8.6	9.0	25.2	1.4	0.6	56.0	54.6
Israel	2011	665	57.6	57.6	10.7	7.0	22.3	1.1	1.3	58.0	57.1
	2015	787	54.0	54.0	9.2	10.0	24.7	0.8	1.3	51.7	56.6
Italy	2011	561	81.6	81.6	5.9	7.6	3.7	0.7	0.5	79.4	83.7
	2015	627	79.7	79.7	4.9	7.1	5.2	2.8	0.4	78.3	81.0
Japan	2011	628	47.6	47.6	6.9	15.3	28.7	1.5	0.0	41.6	53.9
	2015	681	73.6	73.6	3.8	9.2	12.4	0.4	0.6	72.4	74.9
Jordan	2011	1092	79.9	79.9	4.1	4.4	9.0	1.1	1.5	84.5	75.6
	2015	1134	77.6	77.6	4.6	5.8	10.3	1.1	0.6	78.6	76.6
Kazakhstan	2011	617	35.9	35.9	5.6	8.5	48.1	0.7	1.2	36.0	35.7
	2015	697	46.3	46.3	7.0	9.4	35.3	1.1	0.9	40.9	52.2
Korea, Rep. of	2011	741	69.4	69.4	6.0	11.4	13.0	0.0	0.1	67.9	71.1
	2015	757	80.6	80.6	4.9	6.2	8.3	0.0	0.0	80.2	81.0
Lebanon	2011	549	43.9	43.9	13.3	20.5	17.0	2.5	2.9	40.2	48.5
	2015	546	45.5	45.5	6.5	18.0	19.7	4.1	6.2	50.5	40.1
Lithuania	2011	673	63.2	63.2	7.0	7.4	20.3	1.8	0.3	57.1	67.9
	2015	621	56.4	56.4	8.1	8.4	25.7	0.9	0.4	48.3	65.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S06_l3 (S052096): Earth Science / Knowing Type: MC Key: A
Label: Non-renewable energy source

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	42.0	42.0	6.1	27.4	21.2	0.7	2.6	40.6	43.4
	2015	1377	54.3	54.3	4.4	23.1	16.9	0.7	0.6	48.4	60.3
Morocco	2011	1335	41.0	41.0	13.4	16.2	22.5	3.4	3.5	39.9	42.0
	2015	1874	48.1	48.1	14.0	15.1	18.9	2.4	1.5	47.5	48.7
New Zealand	2011	755	70.3	70.3	3.8	13.0	10.4	2.2	0.4	63.3	76.6
	2015	1122	73.6	73.6	5.0	10.7	9.0	0.8	0.9	68.2	79.3
Oman	2011	1363	59.9	59.9	11.4	11.7	13.4	1.7	1.9	66.1	53.3
	2015	1253	63.6	63.6	10.5	10.2	13.7	1.2	0.8	66.5	61.1
Qatar	2011	624	50.7	50.7	13.6	14.7	19.2	1.3	0.3	50.6	50.8
	2015	769	47.3	47.3	12.5	15.9	22.7	0.7	1.0	41.5	52.8
Russian Federation	2011	709	58.7	58.7	7.4	8.5	22.4	1.3	1.7	52.6	64.8
	2015	677	63.9	63.9	6.2	9.8	18.3	1.2	0.5	59.9	67.5
Saudi Arabia	2011	628	75.7	75.7	5.3	7.7	10.8	0.1	0.5	79.0	72.6
	2015	530	69.7	69.7	7.6	7.9	13.8	0.4	0.5	71.9	67.4
Singapore	2011	850	70.4	70.4	3.8	16.7	9.1	0.0	0.1	64.1	76.4
	2015	872	78.4	78.4	3.0	12.4	6.1	0.0	0.1	71.4	84.7
Slovenia	2011	633	75.2	75.2	3.2	4.2	15.4	2.0	0.0	69.9	79.8
	2015	604	66.1	66.1	4.2	6.5	21.2	1.7	0.3	62.2	70.0
South Africa	2011	1704	32.7	32.7	15.5	25.5	18.9	2.7	4.6	32.0	33.4
	2015	1791	37.3	37.3	12.8	28.6	16.1	2.0	3.3	35.9	38.8
Sweden	2011	797	64.0	64.0	6.1	8.4	18.4	2.6	0.6	56.9	71.1
	2015	585	75.4	75.4	3.9	5.2	11.4	2.0	2.0	71.0	79.3
Thailand	2011	859	49.5	49.5	20.3	11.8	16.0	1.0	1.4	46.5	53.0
	2015	917	51.3	51.3	19.2	13.5	14.2	1.6	0.2	49.6	53.4
Turkey	2011	990	64.4	64.4	5.8	6.1	22.1	0.5	1.2	67.0	61.4
	2015	869	48.0	48.0	6.5	8.8	36.3	0.1	0.2	45.8	50.0
United Arab Emirates	2011	1999	58.7	58.7	9.1	14.9	13.9	1.2	2.2	59.3	58.2
	2015	2583	66.5	66.5	8.4	11.2	12.0	1.0	0.9	66.9	66.1
United States	2011	1490	72.3	72.3	4.5	13.1	8.7	0.8	0.6	68.5	76.0
	2015	1475	72.9	72.9	4.4	13.4	6.8	1.0	1.5	66.5	78.9

International Avg (n=33)	2011	28512	61.6	61.6	7.8	11.9	16.2	1.2	1.2	60.0	63.2
	2015	31113	64.6	64.6	7.2	11.2	14.9	1.1	1.0	62.2	67.0

Ontario, Canada	2011	682	80.8	80.8	4.4	6.6	5.7	0.9	1.7	79.2	82.1
	2015	643	77.2	77.2	4.8	9.3	6.9	0.1	1.7	71.5	82.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_l3 (S052096): Earth Science / Knowing Type: MC Key: A
Label: Non-renewable energy source

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	79.4	79.4	5.5	8.4	4.8	1.0	1.0	75.6	83.3
	2015	554	87.0	87.0	2.0	4.8	3.7	0.7	1.8	86.4	87.6
Norway (8)	2011	540	67.6	67.6	4.8	9.8	15.5	1.8	0.5	59.8	75.8
	2015	685	67.5	67.5	6.2	10.9	11.9	1.9	1.6	62.6	72.9
Abu Dhabi, UAE	2011	624	51.8	51.8	11.9	16.7	15.5	1.4	2.6	52.5	51.3
	2015	692	63.4	63.4	11.2	10.4	12.6	1.2	1.3	66.6	60.6
Dubai, UAE	2011	789	59.9	59.9	6.9	16.0	13.5	1.1	2.7	59.2	60.5
	2015	881	68.0	68.0	7.0	11.9	11.6	0.9	0.6	63.6	72.8
Florida, US	2011	246	80.6	80.6	1.7	11.5	6.0	0.3	0.0	80.7	80.5
	2015	298	69.0	69.0	5.8	14.7	9.9	0.3	0.3	68.3	69.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S06_14 (S052116): Earth Science / Reasoning Type: CR 2 Points
Label: Advantages of long roots in soil

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	41.3	32.3	16.7	9.6	0.1	73.6	41.3	38.5	44.2
	2015	1468	32.3	34.9	23.7	8.4	0.7	67.2	32.3	28.5	36.2
Bahrain	2011	654	30.9	24.5	22.5	20.2	1.8	55.4	30.9	34.4	27.2
	2015	702	28.0	29.4	27.6	14.1	0.9	57.3	28.0	29.5	26.5
Botswana	2011	764	26.6	25.7	40.4	4.3	3.0	52.3	26.6	27.1	26.0
	2015	846	19.8	26.1	43.2	8.7	2.3	45.8	19.8	18.6	21.2
Chile	2011	828	26.9	33.1	18.9	18.1	3.0	60.1	26.9	19.6	35.0
	2015	676	22.1	35.2	17.5	23.9	1.3	57.3	22.1	17.3	27.0
Chinese Taipei	2011	718	60.2	24.2	6.9	8.6	0.1	84.4	60.2	60.5	59.9
	2015	821	52.2	29.9	10.2	7.5	0.2	82.1	52.2	52.4	52.0
England	2011	542	54.6	21.7	13.4	8.7	1.6	76.3	54.6	51.9	57.2
	2015	692	44.7	30.3	15.8	8.4	0.9	74.9	44.7	42.9	46.7
Georgia	2011	643	12.4	12.7	13.6	60.3	1.1	25.1	12.4	10.4	14.2
	2015	572	15.6	17.2	19.2	47.0	0.9	32.9	15.6	11.2	20.1
Hong Kong SAR	2011	576	46.1	32.8	11.0	9.8	0.4	78.9	46.1	48.7	43.3
	2015	597	44.1	36.5	13.0	6.3	0.0	80.6	44.1	43.9	44.3
Hungary	2011	730	41.6	18.2	19.6	20.4	0.1	59.9	41.6	38.1	44.7
	2015	704	46.7	18.8	18.9	15.2	0.5	65.5	46.7	42.8	50.8
Iran, Islamic Rep. of	2011	875	25.9	21.0	32.2	19.9	1.0	46.9	25.9	23.4	28.1
	2015	886	21.7	25.9	29.7	22.1	0.6	47.6	21.7	17.6	25.5
Israel	2011	665	37.0	32.7	10.3	18.8	1.3	69.7	37.0	34.5	39.2
	2015	787	36.0	31.3	14.6	16.8	1.3	67.4	36.0	29.1	43.4
Italy	2011	563	37.4	26.8	13.3	22.1	0.5	64.2	37.4	37.1	37.7
	2015	627	36.1	33.1	9.1	21.1	0.5	69.2	36.1	28.4	43.6
Japan	2011	628	53.3	21.8	15.3	9.4	0.2	75.1	53.3	47.6	59.3
	2015	681	64.6	19.5	6.7	8.6	0.6	84.1	64.6	59.2	70.2
Jordan	2011	1092	9.6	24.0	49.2	15.7	1.5	33.6	9.6	10.7	8.5
	2015	1134	9.0	24.0	48.0	18.5	0.6	33.0	9.0	10.7	7.1
Kazakhstan	2011	617	24.0	28.0	19.7	27.1	1.2	52.0	24.0	22.3	25.7
	2015	697	18.2	35.0	28.7	17.2	0.9	53.2	18.2	13.9	23.0
Korea, Rep. of	2011	741	50.3	26.1	13.8	9.7	0.1	76.4	50.3	51.1	49.4
	2015	757	47.3	27.3	17.4	8.0	0.0	74.6	47.3	47.8	46.8
Lebanon	2011	557	12.1	16.0	29.5	39.4	3.0	28.1	12.1	10.1	14.6
	2015	549	0.6	17.0	23.1	52.9	6.4	17.6	0.6	1.1	0.0
Lithuania	2011	673	31.0	23.5	24.5	20.6	0.4	54.5	31.0	30.1	31.6
	2015	621	37.9	25.7	15.8	19.9	0.6	63.7	37.9	35.6	40.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_14 (S052116): Earth Science / Reasoning Type: CR 2 Points
Label: Advantages of long roots in soil

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	22.2	28.9	29.0	17.2	2.7	51.1	22.2	20.7	23.6
	2015	1377	27.5	37.3	23.0	11.2	1.0	64.8	27.5	27.0	28.1
Morocco	2011	1335	1.9	12.3	36.8	45.1	3.9	14.2	1.9	2.3	1.6
	2015	1874	5.8	15.4	39.5	37.4	1.9	21.2	5.8	5.3	6.3
New Zealand	2011	755	40.0	29.8	18.6	11.2	0.4	69.8	40.0	33.8	45.4
	2015	1122	30.2	33.2	26.3	9.2	1.0	63.5	30.2	25.7	35.0
Oman	2011	1363	34.9	21.8	26.9	14.2	2.1	56.7	34.9	41.3	28.1
	2015	1253	35.7	31.8	23.4	8.1	1.0	67.5	35.7	38.9	32.8
Qatar	2011	624	24.3	19.5	34.9	20.9	0.3	43.8	24.3	25.1	23.6
	2015	769	25.6	27.3	29.0	16.8	1.2	52.9	25.6	23.5	27.6
Russian Federation	2011	709	37.5	20.6	15.9	24.1	1.9	58.1	37.5	33.4	41.5
	2015	677	42.7	20.7	13.7	22.2	0.6	63.5	42.7	41.8	43.6
Saudi Arabia	2011	628	11.0	31.7	43.4	13.4	0.5	42.7	11.0	8.6	13.2
	2015	531	14.1	30.1	37.1	18.0	0.7	44.1	14.1	14.9	13.2
Singapore	2011	850	65.9	20.9	8.6	4.5	0.1	86.8	65.9	67.6	64.3
	2015	872	69.8	21.1	6.2	2.7	0.1	91.0	69.8	70.0	69.7
Slovenia	2011	633	54.1	24.4	7.4	14.2	0.0	78.4	54.1	52.8	55.1
	2015	604	50.4	32.9	5.8	10.7	0.3	83.2	50.4	49.5	51.3
South Africa	2011	1704	6.1	11.1	63.5	14.3	5.0	17.2	6.1	5.1	7.0
	2015	1791	7.3	13.7	63.5	11.5	4.0	21.0	7.3	8.1	6.4
Sweden	2011	796	30.2	31.3	20.5	17.3	0.7	61.5	30.2	27.3	33.2
	2015	585	38.0	29.4	13.8	16.4	2.4	67.5	38.0	33.6	41.9
Thailand	2011	859	32.9	29.2	15.7	20.5	1.6	62.1	32.9	31.7	34.3
	2015	918	28.7	30.3	27.1	13.6	0.3	58.9	28.7	31.0	25.8
Turkey	2011	990	20.7	28.5	27.8	21.7	1.3	49.2	20.7	20.6	20.9
	2015	869	29.3	37.3	17.9	15.2	0.2	66.6	29.3	29.6	29.1
United Arab Emirates	2011	1999	27.6	26.0	30.6	13.6	2.2	53.6	27.6	26.5	28.6
	2015	2583	31.5	25.6	30.3	11.6	1.0	57.1	31.5	34.1	29.0
United States	2011	1490	30.6	41.2	21.9	5.5	0.8	71.8	30.6	26.1	35.1
	2015	1475	28.5	39.1	26.6	4.3	1.6	67.6	28.5	24.4	32.5
International Avg (n=33)	2011	28512	32.2	24.9	23.4	18.2	1.3	57.1	32.2	30.9	33.4
	2015	31117	31.6	28.0	23.2	16.2	1.1	59.5	31.6	29.9	33.2
Ontario, Canada	2011	682	40.0	34.1	12.4	11.4	2.0	74.1	40.0	39.7	40.2
	2015	644	41.6	34.1	15.2	7.4	1.7	75.7	41.6	36.6	45.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_14 (S052116): Earth Science / Reasoning Type: CR 2 Points
Label: Advantages of long roots in soil

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	38.8	34.7	16.2	9.2	1.1	73.5	38.8	36.0	41.8
	2015	555	34.0	38.8	14.5	10.5	2.1	72.9	34.0	26.8	42.6
Norway (8)	2011	540	29.7	36.9	18.1	14.8	0.5	66.5	29.7	23.4	36.3
	2015	685	26.7	37.2	19.0	15.5	1.6	63.8	26.7	22.1	31.7
Abu Dhabi, UAE	2011	624	23.7	26.3	33.3	14.1	2.6	50.1	23.7	19.4	27.6
	2015	692	24.0	22.9	36.4	15.1	1.5	46.9	24.0	28.6	19.9
Dubai, UAE	2011	789	34.3	23.0	24.6	15.5	2.7	57.3	34.3	35.3	33.3
	2015	881	46.5	27.2	19.2	6.5	0.6	73.7	46.5	48.2	44.7
Florida, US	2011	246	33.7	38.5	17.9	9.8	0.0	72.2	33.7	31.1	36.0
	2015	298	24.6	34.3	31.2	9.5	0.3	58.9	24.6	20.9	28.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_15 (S052110): Earth Science / Applying Type: CR 1 Point
Label: Weight less on Moon than Earth

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1078	34.4	64.2	0.9	0.5	34.4	27.0	41.9
	2015	1468	26.8	71.4	0.6	1.2	26.8	19.0	34.8
Bahrain	2011	654	28.1	68.1	0.8	2.9	28.1	29.0	27.2
	2015	702	21.7	76.2	1.0	1.1	21.7	25.3	18.3
Botswana	2011	764	7.2	85.3	3.7	3.7	7.2	6.7	7.7
	2015	846	3.8	88.8	2.7	4.7	3.8	2.7	5.0
Chile	2011	828	12.5	80.0	3.2	4.2	12.5	9.3	16.1
	2015	676	15.3	78.4	4.0	2.3	15.3	11.6	19.0
Chinese Taipei	2011	718	29.9	67.3	2.1	0.7	29.9	21.9	37.0
	2015	821	27.8	70.4	1.2	0.6	27.8	18.0	38.3
England	2011	542	36.2	61.1	0.9	1.7	36.2	26.4	45.8
	2015	692	36.7	60.8	1.5	0.9	36.7	32.0	42.4
Georgia	2011	653	12.4	76.2	3.8	7.6	12.4	10.9	13.7
	2015	572	9.9	79.2	5.5	5.3	9.9	3.5	16.4
Hong Kong SAR	2011	576	32.9	66.1	0.3	0.7	32.9	26.8	39.4
	2015	597	38.9	59.8	1.2	0.2	38.9	28.6	47.5
Hungary	2011	730	13.1	85.8	0.3	0.9	13.1	7.7	17.7
	2015	704	14.5	83.4	1.0	1.1	14.5	9.6	19.7
Iran, Islamic Rep. of	2011	875	12.3	82.8	2.8	2.1	12.3	6.8	17.1
	2015	885	18.0	76.4	3.5	2.1	18.0	13.9	21.9
Israel	2011	665	21.1	76.0	0.5	2.3	21.1	18.0	23.9
	2015	787	28.7	67.5	1.5	2.2	28.7	26.8	30.8
Italy	2011	563	24.7	72.5	1.5	1.3	24.7	21.5	27.8
	2015	627	23.1	74.0	1.6	1.3	23.1	17.3	28.6
Japan	2011	628	28.9	70.6	0.3	0.3	28.9	20.6	37.5
	2015	681	28.7	70.0	0.3	1.0	28.7	20.4	37.4
Jordan	2011	1092	10.4	86.3	1.0	2.4	10.4	8.4	12.3
	2015	1134	12.8	84.1	1.5	1.6	12.8	10.9	14.8
Kazakhstan	2011	617	31.1	55.6	7.4	5.8	31.1	30.5	31.8
	2015	697	42.7	52.3	2.6	2.5	42.7	35.2	50.8
Korea, Rep. of	2011	741	40.3	58.8	0.5	0.4	40.3	28.9	52.6
	2015	757	36.0	62.8	0.6	0.6	36.0	26.7	43.8
Lebanon	2011	557	15.0	73.5	5.5	6.0	15.0	9.2	22.3
	2015	549	15.9	72.0	2.4	9.7	15.9	17.3	14.4
Lithuania	2011	673	26.0	72.8	0.5	0.8	26.0	18.1	32.2
	2015	621	24.6	73.9	0.0	1.5	24.6	15.1	34.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_15 (S052110): Earth Science / Applying Type: CR 1 Point
Label: Weight less on Moon than Earth

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	833	14.0	79.3	2.4	4.4	14.0	11.6	16.2
	2015	1377	15.9	76.7	3.1	4.3	15.9	12.2	19.8
Morocco	2011	1335	2.3	87.4	3.9	6.5	2.3	1.9	2.6
	2015	1874	5.5	88.4	2.3	3.8	5.5	3.8	6.9
New Zealand	2011	755	28.2	68.6	1.5	1.7	28.2	20.1	35.3
	2015	1122	32.1	65.4	1.3	1.2	32.1	24.0	40.6
Oman	2011	1363	15.9	78.3	2.4	3.4	15.9	18.9	12.7
	2015	1251	15.1	80.1	2.8	2.0	15.1	15.4	14.9
Qatar	2011	624	19.7	77.1	1.5	1.8	19.7	15.6	23.4
	2015	769	23.6	73.1	0.9	2.4	23.6	19.1	27.9
Russian Federation	2011	709	21.6	74.0	1.1	3.3	21.6	17.6	25.5
	2015	677	29.0	68.1	1.3	1.6	29.0	23.1	34.1
Saudi Arabia	2011	628	27.4	70.6	0.9	1.0	27.4	24.6	30.0
	2015	531	15.5	81.8	0.9	1.8	15.5	16.2	14.7
Singapore	2011	850	48.3	51.3	0.3	0.1	48.3	44.4	52.2
	2015	872	49.3	50.3	0.2	0.3	49.3	46.5	51.8
Slovenia	2011	633	19.5	79.9	0.5	0.1	19.5	16.2	22.4
	2015	604	29.4	69.3	0.2	1.0	29.4	27.8	31.1
South Africa	2011	1704	12.2	76.9	4.2	6.7	12.2	10.9	13.2
	2015	1791	8.7	82.3	2.6	6.4	8.7	8.7	8.8
Sweden	2011	795	23.8	74.0	0.9	1.3	23.8	17.5	30.0
	2015	585	29.4	66.5	1.0	3.1	29.4	27.0	31.5
Thailand	2011	859	19.3	69.1	5.7	6.0	19.3	15.4	23.9
	2015	918	14.9	78.7	3.0	3.4	14.9	11.2	19.5
Turkey	2011	990	13.8	81.0	2.1	3.1	13.8	11.6	16.3
	2015	869	16.6	80.6	1.1	1.6	16.6	14.1	19.0
United Arab Emirates	2011	1999	27.7	67.8	1.4	3.0	27.7	25.2	30.3
	2015	2583	27.1	70.3	1.0	1.6	27.1	25.7	28.4
United States	2011	1490	41.1	55.8	2.0	1.1	41.1	32.9	49.3
	2015	1475	43.5	53.7	0.9	1.9	43.5	37.2	49.3
International Avg (n=33)	2011	28521	22.8	72.6	2.0	2.7	22.8	18.5	26.9
	2015	31114	23.7	72.3	1.7	2.3	23.7	19.6	27.8
Ontario, Canada	2011	682	45.2	49.4	2.2	3.2	45.2	41.7	47.9
	2015	644	40.7	56.4	0.7	2.2	40.7	34.8	46.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S06_15 (S052110): Earth Science / Applying Type: CR 1 Point
Label: Weight less on Moon than Earth

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	34.6	63.3	0.7	1.4	34.6	30.1	39.4
	2015	555	30.3	65.4	0.9	3.4	30.3	22.2	39.8
Norway (8)	2011	540	26.9	71.6	0.6	0.8	26.9	18.9	35.4
	2015	685	22.2	74.2	1.2	2.5	22.2	16.8	28.1
Abu Dhabi, UAE	2011	624	26.1	68.7	1.5	3.6	26.1	20.4	31.2
	2015	692	20.1	76.5	1.2	2.2	20.1	20.2	20.0
Dubai, UAE	2011	789	27.7	66.9	1.8	3.7	27.7	26.4	28.9
	2015	881	34.1	63.4	1.2	1.4	34.1	30.9	37.6
Florida, US	2011	246	45.2	53.7	0.8	0.3	45.2	39.4	50.5
	2015	298	41.7	57.4	0.0	0.9	41.7	33.5	49.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_01 (S042042): Biology / Knowing Type: MC Key: A
Label: Which organism is a producer

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	72.8	72.8	9.0	9.8	7.2	1.2	0.0	64.9	80.9
	2015	1474	73.9	73.9	9.2	8.0	7.6	1.1	0.2	74.1	73.7
Bahrain	2011	654	68.0	68.0	19.9	4.1	5.8	2.0	0.2	75.8	60.3
	2015	693	67.1	67.1	17.2	5.4	9.4	0.8	0.1	71.3	63.2
Botswana	2011	766	68.9	68.9	9.1	8.8	12.2	1.0	0.0	70.6	67.1
	2015	858	70.3	70.3	8.1	7.7	12.4	1.2	0.2	69.8	70.9
Chile	2011	830	73.8	73.8	10.6	4.1	8.3	3.0	0.3	73.7	73.9
	2015	679	72.2	72.2	11.0	6.7	7.6	2.5	0.0	69.3	75.3
Chinese Taipei	2011	716	85.9	85.9	6.8	4.9	2.2	0.2	0.0	85.5	86.4
	2015	820	85.2	85.2	7.4	4.4	2.6	0.3	0.0	82.8	87.7
England	2011	545	73.6	73.6	6.7	9.0	9.7	0.8	0.2	73.9	73.3
	2015	678	70.0	70.0	9.4	7.5	12.1	0.9	0.1	67.6	72.8
Georgia	2011	654	65.4	65.4	8.0	12.6	12.5	1.2	0.4	69.6	61.5
	2015	577	46.1	46.1	26.3	14.3	7.3	5.8	0.3	45.1	47.0
Hong Kong SAR	2011	574	79.0	79.0	6.6	7.9	5.8	0.7	0.0	74.7	83.4
	2015	598	81.8	81.8	7.9	7.7	2.4	0.3	0.0	77.6	85.4
Hungary	2011	739	76.6	76.6	4.2	12.3	4.9	2.0	0.0	71.3	80.9
	2015	706	81.2	81.2	4.4	10.9	3.0	0.5	0.0	79.8	82.8
Iran, Islamic Rep. of	2011	870	57.0	57.0	18.3	9.2	13.4	2.1	0.0	54.8	58.9
	2015	863	57.6	57.6	21.0	4.4	14.5	2.4	0.1	57.9	57.4
Israel	2011	661	80.7	80.7	5.5	9.9	3.3	0.5	0.2	81.6	79.8
	2015	771	73.6	73.6	8.6	9.2	6.9	1.5	0.1	71.7	75.1
Italy	2011	565	77.5	77.5	6.6	4.9	8.9	2.1	0.0	77.5	77.6
	2015	640	73.8	73.8	5.3	8.2	9.8	2.8	0.0	71.7	76.1
Japan	2011	627	54.8	54.8	25.8	11.6	7.1	0.8	0.0	52.1	57.8
	2015	682	61.8	61.8	18.9	10.8	8.0	0.5	0.0	60.1	63.6
Jordan	2011	1079	83.2	83.2	7.3	3.2	4.9	1.4	0.0	89.1	77.7
	2015	1122	83.2	83.2	6.8	2.3	7.0	0.6	0.1	85.6	80.6
Kazakhstan	2011	622	52.7	52.7	20.6	14.3	6.7	5.8	0.0	52.6	52.7
	2015	700	68.2	68.2	13.7	10.9	4.3	2.8	0.1	70.2	65.8
Korea, Rep. of	2011	743	90.0	90.0	4.1	2.7	3.1	0.1	0.0	88.7	91.3
	2015	756	87.0	87.0	4.2	3.5	5.2	0.1	0.0	83.7	89.9
Lebanon	2011	562	69.0	69.0	9.3	11.6	6.6	3.5	0.0	67.9	70.3
	2015	543	72.1	72.1	8.1	7.9	6.6	5.2	0.2	71.3	72.9
Lithuania	2011	674	91.7	91.7	1.6	3.8	1.6	1.3	0.0	91.2	92.1
	2015	619	87.9	87.9	2.6	5.4	2.9	1.1	0.0	89.1	86.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_01 (S042042): Biology / Knowing Type: MC Key: A
Label: Which organism is a producer

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	78.9	78.9	7.4	9.0	4.3	0.4	0.0	83.0	75.1
	2015	1392	87.9	87.9	3.2	5.4	3.2	0.2	0.1	89.4	86.4
Morocco	2011	1314	66.8	66.8	19.1	7.5	4.0	1.8	0.9	70.3	63.4
	2015	1858	72.6	72.6	18.1	4.3	3.3	1.7	0.0	76.5	69.6
New Zealand	2011	756	77.5	77.5	8.3	7.3	5.7	1.1	0.0	78.6	76.5
	2015	1176	78.8	78.8	7.8	5.1	7.0	1.2	0.0	77.2	80.6
Oman	2011	1367	78.1	78.1	9.2	5.0	6.2	1.3	0.2	82.2	73.7
	2015	1252	76.7	76.7	9.6	4.7	7.4	1.4	0.2	81.4	72.5
Qatar	2011	635	66.0	66.0	17.1	8.6	6.0	2.0	0.3	66.6	65.4
	2015	774	70.9	70.9	16.4	5.1	6.2	1.3	0.0	72.4	69.5
Russian Federation	2011	707	60.0	60.0	16.9	13.7	4.6	4.8	0.0	59.4	60.6
	2015	685	61.4	61.4	14.5	14.4	4.0	5.7	0.0	66.3	56.7
Saudi Arabia	2011	628	58.3	58.3	27.0	7.7	6.5	0.6	0.0	58.7	58.0
	2015	524	63.9	63.9	18.8	6.7	9.9	0.7	0.0	65.6	62.2
Singapore	2011	848	91.3	91.3	3.6	2.3	2.5	0.3	0.0	91.5	91.1
	2015	872	91.6	91.6	2.7	3.6	1.9	0.2	0.0	92.1	91.2
Slovenia	2011	633	94.2	94.2	0.6	2.9	1.3	1.0	0.0	94.7	93.7
	2015	608	91.7	91.7	0.6	4.4	1.9	1.3	0.0	88.5	94.5
South Africa	2011	1713	59.9	59.9	13.2	13.3	10.7	2.8	0.1	59.9	60.0
	2015	1790	65.8	65.8	11.9	12.4	8.4	1.5	0.1	64.7	67.0
Sweden	2011	783	67.2	67.2	10.5	14.5	5.5	2.2	0.0	64.4	69.9
	2015	574	69.9	69.9	10.2	13.2	3.9	2.8	0.0	68.4	71.3
Thailand	2011	875	75.8	75.8	7.9	6.6	8.4	1.2	0.1	73.6	78.5
	2015	920	84.1	84.1	6.1	5.3	4.0	0.5	0.0	88.0	79.2
Turkey	2011	984	82.7	82.7	8.2	2.8	5.7	0.7	0.0	81.3	84.1
	2015	861	77.7	77.7	11.1	2.4	7.9	0.6	0.1	78.6	76.8
United Arab Emirates	2011	1999	70.6	70.6	13.1	5.6	9.6	1.0	0.1	72.0	69.1
	2015	2582	72.8	72.8	13.0	4.9	8.3	1.1	0.0	73.8	71.7
United States	2011	1509	77.1	77.1	8.7	6.1	7.3	0.6	0.1	75.4	78.9
	2015	1463	80.6	80.6	6.7	4.7	6.6	1.1	0.2	77.9	83.3

International Avg (n=33)	2011	28513	73.5	73.5	10.6	7.8	6.4	1.6	0.1	73.5	73.5
	2015	31110	74.5	74.5	10.3	7.0	6.5	1.6	0.1	74.5	74.5

Ontario, Canada	2011	681	68.9	68.9	10.3	11.9	7.2	1.7	0.0	63.0	73.8
	2015	645	78.3	78.3	7.5	5.2	7.4	1.1	0.5	75.8	80.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_01 (S042042): Biology / Knowing Type: MC Key: A
Label: Which organism is a producer

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	76.9	76.9	7.6	6.8	6.2	2.5	0.0	75.4	78.6
	2015	549	83.2	83.2	5.8	5.0	5.6	0.4	0.0	79.8	86.8
Norway (8)	2011	552	60.4	60.4	21.7	10.9	4.2	2.7	0.0	59.3	61.9
	2015	695	64.2	64.2	17.4	12.5	3.5	2.1	0.3	61.5	66.7
Abu Dhabi, UAE	2011	623	67.2	67.2	14.9	5.3	11.9	0.7	0.0	68.0	66.6
	2015	698	69.2	69.2	15.0	5.9	8.8	1.0	0.0	73.9	64.9
Dubai, UAE	2011	784	70.7	70.7	10.7	7.7	9.3	1.4	0.1	69.7	71.6
	2015	877	78.4	78.4	9.0	4.6	7.2	0.8	0.0	75.7	81.4
Florida, US	2011	239	76.9	76.9	6.5	6.2	10.1	0.4	0.0	72.6	80.8
	2015	302	84.1	84.1	4.8	3.3	7.1	0.4	0.3	83.4	84.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_02 (S042030): Biology / Applying Type: CR 1 Point
Label: What kind of reproduction

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	2.1	24.6	56.3	10.3	1.4	5.3	0.0	26.7	24.6	28.9
	2015	1474	0.1	38.4	45.2	11.4	0.5	4.0	0.4	38.5	37.8	39.3
Bahrain	2011	654	4.0	13.4	39.2	22.0	17.3	4.0	0.2	17.4	16.4	18.4
	2015	693	4.6	16.7	45.8	22.0	8.1	2.7	0.1	21.3	23.7	19.1
Botswana	2011	766	1.0	14.1	40.1	32.6	8.6	3.6	0.0	15.1	17.3	12.8
	2015	858	2.0	21.4	29.0	30.5	14.5	2.3	0.2	23.4	25.9	20.7
Chile	2011	830	0.6	31.9	48.7	8.7	0.9	8.9	0.3	32.5	34.7	30.0
	2015	679	2.6	25.6	45.1	11.5	4.3	10.9	0.0	28.2	25.6	31.0
Chinese Taipei	2011	716	1.0	31.7	46.2	18.7	2.1	0.3	0.0	32.7	38.2	27.6
	2015	820	0.9	40.6	39.6	18.2	0.1	0.7	0.0	41.4	39.1	43.7
England	2011	545	0.2	23.5	57.8	9.9	1.5	6.9	0.2	23.7	24.4	23.0
	2015	678	1.6	30.3	47.9	10.8	2.6	6.7	0.1	31.9	33.7	29.7
Georgia	2011	654	2.2	14.8	58.2	16.5	2.9	5.0	0.4	17.0	16.8	17.3
	2015	577	1.9	10.3	59.8	20.8	1.7	5.3	0.3	12.2	12.2	12.1
Hong Kong SAR	2011	574	2.6	31.2	48.4	14.5	2.4	0.9	0.0	33.8	34.6	33.0
	2015	598	0.6	34.5	49.4	10.3	4.2	0.9	0.0	35.1	35.3	35.0
Hungary	2011	739	2.2	9.5	39.5	44.7	0.7	3.5	0.0	11.7	11.1	12.1
	2015	706	0.5	12.6	36.1	47.1	0.8	2.9	0.0	13.0	10.7	15.5
Iran, Islamic Rep. of	2011	869	1.2	30.6	37.3	27.8	1.9	1.3	0.0	31.8	38.4	26.1
	2015	863	0.8	36.9	41.4	18.2	0.7	1.8	0.1	37.8	39.1	36.6
Israel	2011	661	0.3	33.6	43.8	18.8	1.2	2.1	0.2	33.9	36.1	31.7
	2015	771	0.6	29.1	45.4	20.8	0.7	3.3	0.1	29.8	32.1	27.8
Italy	2011	564	1.7	28.5	49.5	11.1	3.1	6.1	0.0	30.2	31.0	29.3
	2015	640	0.6	35.4	47.3	8.0	0.5	8.2	0.0	36.0	35.1	36.9
Japan	2011	627	0.4	11.7	38.4	43.9	3.9	1.7	0.0	12.1	7.7	16.8
	2015	682	0.1	12.8	39.1	44.2	1.0	2.7	0.0	12.9	12.0	13.9
Jordan	2011	1079	6.4	11.9	27.7	40.3	11.4	2.2	0.0	18.4	17.0	19.6
	2015	1122	10.9	1.1	34.4	27.9	23.9	1.7	0.1	12.0	12.1	12.0
Kazakhstan	2011	622	22.6	6.7	27.2	20.8	18.0	4.6	0.0	29.4	33.5	25.5
	2015	700	9.5	31.9	30.9	17.3	7.3	3.0	0.1	41.4	41.8	40.9
Korea, Rep. of	2011	743	0.3	8.9	36.7	52.1	0.1	2.0	0.0	9.1	10.2	8.0
	2015	756	0.0	6.6	32.8	55.7	2.1	2.8	0.0	6.6	4.7	8.2
Lebanon	2011	570	4.2	13.7	42.2	15.7	17.6	6.7	0.0	17.8	17.7	17.9
	2015	549	2.2	4.8	54.4	13.9	17.2	7.4	0.2	7.0	7.2	6.7
Lithuania	2011	674	1.9	28.3	61.5	7.0	0.3	1.1	0.0	30.2	35.8	25.3
	2015	619	1.0	31.8	56.0	8.4	0.6	2.2	0.0	32.9	32.9	32.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_02 (S042030): Biology / Applying Type: CR 1 Point
Label: What kind of reproduction

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	1.3	3.8	62.0	24.7	1.7	6.4	0.0	5.1	5.0	5.2
	2015	1392	1.5	8.1	48.2	19.1	15.0	8.1	0.1	9.6	8.8	10.4
Morocco	2011	1333	5.4	11.5	29.3	32.9	14.2	5.7	1.0	16.9	18.3	15.7
	2015	1852	1.5	14.4	18.0	40.7	21.8	3.6	0.0	16.0	17.2	15.0
New Zealand	2011	756	1.1	22.7	55.3	14.7	3.2	3.0	0.0	23.8	20.7	26.5
	2015	1176	1.6	27.7	51.9	13.0	1.0	4.8	0.0	29.3	30.0	28.5
Oman	2011	1368	3.4	4.6	29.4	52.6	6.3	3.5	0.2	8.0	8.9	7.1
	2015	1257	3.0	8.7	26.5	51.2	7.3	3.1	0.2	11.7	13.7	10.0
Qatar	2011	635	2.2	10.4	45.8	36.8	1.8	2.5	0.4	12.7	13.8	11.6
	2015	774	4.0	12.1	36.5	26.0	17.6	3.7	0.0	16.1	15.8	16.4
Russian Federation	2011	707	1.0	25.1	63.7	7.3	0.6	2.3	0.0	26.1	26.1	26.1
	2015	685	1.5	20.9	66.5	8.4	1.2	1.5	0.0	22.4	24.7	20.2
Saudi Arabia	2011	629	2.3	13.9	45.0	35.9	1.3	1.6	0.0	16.2	15.5	16.8
	2015	524	2.0	6.9	52.5	30.7	7.1	0.8	0.0	8.9	10.3	7.4
Singapore	2011	848	5.4	46.3	36.6	9.6	1.2	0.9	0.0	51.7	55.6	48.0
	2015	872	2.3	51.0	39.2	6.2	0.4	1.0	0.0	53.3	56.7	50.1
Slovenia	2011	633	2.3	31.1	46.0	12.7	7.2	0.7	0.0	33.4	33.1	33.8
	2015	608	7.4	31.8	31.4	6.2	21.8	1.4	0.0	39.1	45.6	33.4
South Africa	2011	1713	3.0	3.4	23.4	20.2	46.4	3.4	0.1	6.4	7.7	5.2
	2015	1790	1.5	1.8	51.9	37.0	3.6	4.0	0.3	3.3	3.3	3.3
Sweden	2011	783	0.1	11.3	71.6	10.6	1.8	4.4	0.1	11.4	13.6	9.5
	2015	574	0.9	17.7	64.8	10.8	0.3	5.4	0.1	18.5	18.9	18.5
Thailand	2011	875	0.6	13.4	58.3	11.0	5.5	11.0	0.1	14.0	16.7	10.6
	2015	920	0.3	9.9	71.6	11.7	2.4	4.1	0.0	10.2	11.1	9.1
Turkey	2011	984	6.3	13.6	41.9	30.3	2.9	5.0	0.0	19.8	19.8	19.9
	2015	861	19.2	14.6	31.2	29.0	3.8	2.0	0.1	33.8	37.5	30.4
United Arab Emirates	2011	1999	0.7	22.6	47.6	25.2	1.2	2.7	0.1	23.2	25.5	21.0
	2015	2582	0.7	26.2	42.8	22.2	4.8	3.3	0.0	26.9	29.2	24.8
United States	2011	1509	1.3	41.1	45.5	10.0	0.5	1.5	0.1	42.4	39.4	45.5
	2015	1463	2.1	47.6	40.8	8.0	0.2	1.2	0.2	49.7	51.1	48.2

International Avg (n=33)	2011	28540	2.8	19.5	45.5	22.7	5.8	3.7	0.1	22.3	23.2	21.4
	2015	31115	2.7	21.8	44.0	21.7	6.0	3.6	0.1	24.5	25.3	23.9

Ontario, Canada	2011	681	2.6	22.5	48.4	12.1	6.9	7.5	0.1	25.1	23.6	26.1
	2015	645	0.5	28.7	53.2	10.1	2.4	4.6	0.5	29.2	30.9	27.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_02 (S042030): Biology / Applying Type: CR 1 Point
Label: What kind of reproduction

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	6.3	30.9	38.5	9.6	9.8	4.9	0.0	37.2	37.7	36.5
	2015	551	1.3	43.6	39.4	8.6	5.8	1.3	0.0	44.9	41.8	48.2
Norway (8)	2011	552	0.0	8.5	48.8	34.1	1.6	6.8	0.3	8.5	9.0	7.8
	2015	695	0.5	6.5	42.5	38.3	4.1	7.9	0.3	6.9	7.4	6.5
Abu Dhabi, UAE	2011	623	1.0	20.1	48.6	26.8	1.1	2.5	0.0	21.1	18.3	23.5
	2015	698	0.8	19.7	46.1	25.2	3.9	4.3	0.0	20.5	21.0	20.1
Dubai, UAE	2011	784	0.6	26.6	48.0	19.8	2.1	2.6	0.2	27.2	31.4	23.5
	2015	877	0.8	34.2	41.5	14.4	6.1	3.0	0.0	35.0	40.4	29.0
Florida, US	2011	239	2.8	44.7	40.1	11.1	0.0	1.4	0.0	47.4	48.1	46.8
	2015	302	1.3	43.0	44.2	8.8	0.9	1.4	0.3	44.3	47.4	41.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_03 (S042003): Biology / Applying Type: MC Key: B
Label: O2-CO2 exchange in an animal skin

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	52.2	13.6	52.2	21.7	11.6	0.8	0.0	46.9	57.8
	2015	1474	50.5	15.4	50.5	19.5	12.5	1.6	0.4	50.3	50.8
Bahrain	2011	654	43.3	16.6	43.3	21.4	16.7	1.8	0.2	46.7	39.8
	2015	693	50.1	15.7	50.1	17.8	14.8	1.5	0.1	52.8	47.6
Botswana	2011	766	30.0	20.2	30.0	23.1	24.4	2.4	0.0	28.0	32.0
	2015	858	27.3	18.1	27.3	25.7	25.2	3.5	0.2	26.9	27.6
Chile	2011	830	27.0	19.6	27.0	27.8	19.3	5.8	0.5	23.4	31.0
	2015	679	29.5	19.7	29.5	27.9	16.9	6.1	0.0	27.6	31.4
Chinese Taipei	2011	716	64.5	10.9	64.5	15.2	9.5	0.0	0.0	64.2	64.7
	2015	820	69.3	9.3	69.3	10.7	10.5	0.3	0.0	67.4	71.1
England	2011	545	32.3	21.9	32.3	31.6	11.2	2.8	0.2	30.7	33.7
	2015	678	36.1	17.6	36.1	28.5	16.1	1.7	0.1	34.9	37.4
Georgia	2011	655	56.3	11.7	56.3	18.3	9.4	3.9	0.4	59.6	53.3
	2015	577	57.7	13.0	57.7	17.0	7.2	4.8	0.3	55.6	59.6
Hong Kong SAR	2011	574	53.3	12.3	53.3	23.3	10.7	0.3	0.0	50.9	55.9
	2015	598	56.8	11.9	56.8	20.7	10.4	0.2	0.0	52.5	60.3
Hungary	2011	739	60.6	10.1	60.6	18.3	10.6	0.4	0.0	53.5	66.4
	2015	706	68.4	5.8	68.4	17.8	7.9	0.1	0.0	65.2	71.8
Iran, Islamic Rep. of	2011	870	49.9	18.7	49.9	19.1	11.3	1.0	0.0	51.4	48.7
	2015	863	27.0	27.5	27.0	27.2	15.1	3.1	0.1	28.6	25.6
Israel	2011	661	42.5	15.3	42.5	24.6	13.5	3.9	0.2	41.1	43.9
	2015	771	45.9	15.7	45.9	24.7	11.3	2.2	0.1	48.2	44.0
Italy	2011	565	47.9	14.2	47.9	19.3	14.2	4.3	0.0	47.0	48.8
	2015	640	45.7	16.5	45.7	21.8	12.6	3.4	0.0	41.5	50.2
Japan	2011	627	59.1	9.3	59.1	19.5	11.6	0.5	0.0	57.3	61.0
	2015	682	62.3	9.7	62.3	16.1	11.2	0.6	0.1	61.8	62.8
Jordan	2011	1079	27.7	29.0	27.7	23.8	16.1	3.5	0.0	26.5	28.7
	2015	1122	30.6	29.2	30.6	18.5	18.0	3.7	0.1	33.3	27.6
Kazakhstan	2011	622	58.2	6.9	58.2	18.6	13.7	2.6	0.0	55.7	60.4
	2015	700	67.1	7.0	67.1	16.5	8.0	1.4	0.1	68.7	65.2
Korea, Rep. of	2011	743	62.2	11.6	62.2	18.2	7.7	0.2	0.0	63.0	61.3
	2015	756	46.8	16.1	46.8	26.7	9.8	0.6	0.0	46.7	46.9
Lebanon	2011	563	55.5	9.1	55.5	16.5	13.2	5.8	0.0	55.9	55.0
	2015	545	53.2	12.6	53.2	15.4	9.5	9.2	0.2	57.3	48.6
Lithuania	2011	674	65.5	7.1	65.5	15.2	9.4	2.9	0.0	65.9	65.2
	2015	619	73.7	5.0	73.7	12.6	7.6	1.1	0.0	79.4	68.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_03 (S042003): Biology / Applying Type: MC Key: B
Label: O2-CO2 exchange in an animal skin

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	47.7	13.3	47.7	23.7	14.3	1.0	0.0	48.0	47.4
	2015	1392	50.4	9.3	50.4	24.6	14.0	1.6	0.1	49.3	51.5
Morocco	2011	1311	41.4	18.3	41.4	22.1	14.5	2.6	1.0	39.2	43.5
	2015	1856	54.5	11.9	54.5	17.6	13.3	2.8	0.0	54.4	54.7
New Zealand	2011	756	42.4	16.5	42.4	26.2	13.3	1.5	0.1	42.3	42.4
	2015	1176	39.1	19.4	39.1	26.2	12.9	2.4	0.0	37.8	40.6
Oman	2011	1368	35.4	22.1	35.4	24.9	14.2	3.1	0.2	35.0	35.9
	2015	1257	48.6	16.5	48.6	16.8	15.6	2.4	0.2	51.1	46.3
Qatar	2011	635	33.8	19.0	33.8	24.5	20.3	2.0	0.4	31.9	35.6
	2015	774	44.7	17.7	44.7	20.5	14.8	2.3	0.0	44.2	45.2
Russian Federation	2011	707	76.2	3.1	76.2	11.6	7.4	1.4	0.3	75.1	77.3
	2015	685	76.6	3.1	76.6	12.4	5.9	2.0	0.0	75.2	77.8
Saudi Arabia	2011	627	39.4	23.1	39.4	20.8	16.0	0.7	0.0	37.1	41.4
	2015	524	35.6	22.5	35.6	21.4	19.6	1.0	0.0	38.0	32.9
Singapore	2011	848	69.9	8.4	69.9	14.0	7.4	0.3	0.0	67.3	72.2
	2015	872	74.3	9.8	74.3	10.6	4.8	0.4	0.0	72.7	75.8
Slovenia	2011	632	31.4	23.6	31.4	28.9	12.1	4.0	0.0	27.0	35.4
	2015	608	42.7	20.2	42.7	23.5	10.3	3.3	0.0	42.9	42.6
South Africa	2011	1713	25.1	23.0	25.1	24.3	24.1	3.3	0.2	25.2	25.1
	2015	1790	27.7	22.6	27.7	24.9	22.6	1.9	0.3	24.5	30.9
Sweden	2011	783	46.8	14.0	46.8	23.7	12.3	3.1	0.1	45.4	48.1
	2015	574	41.3	21.1	41.3	16.4	18.0	3.0	0.2	43.4	39.5
Thailand	2011	875	47.1	16.1	47.1	19.8	14.2	2.4	0.3	47.2	47.0
	2015	920	51.6	19.3	51.6	14.1	13.7	1.3	0.0	54.0	48.7
Turkey	2011	984	29.0	24.6	29.0	21.8	20.8	3.9	0.0	26.5	31.5
	2015	861	31.6	19.7	31.6	23.0	24.5	1.0	0.1	31.8	31.3
United Arab Emirates	2011	1999	51.4	16.6	51.4	18.0	12.2	1.7	0.1	50.1	52.6
	2015	2582	48.7	17.0	48.7	18.3	14.0	1.9	0.0	51.2	46.4
United States	2011	1509	45.9	17.0	45.9	21.7	14.4	0.9	0.1	46.2	45.6
	2015	1463	42.5	19.2	42.5	23.8	13.1	1.3	0.2	42.9	42.0

International Avg (n=33)	2011	28511	47.0	15.7	47.0	21.3	13.7	2.3	0.1	45.8	48.1
	2015	31115	48.7	15.6	48.7	20.0	13.4	2.2	0.1	48.9	48.6

Ontario, Canada	2011	681	40.7	19.1	40.7	23.4	14.2	2.6	0.1	38.8	42.1
	2015	644	46.1	18.8	46.1	20.6	12.7	1.3	0.5	39.4	52.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_03 (S042003): Biology / Applying Type: MC Key: B
Label: O2-CO2 exchange in an animal skin

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	43.6	17.7	43.6	24.1	10.3	3.8	0.4	45.9	41.1
	2015	551	48.8	17.9	48.8	21.7	10.0	1.6	0.0	43.6	54.1
Norway (8)	2011	552	30.9	20.4	30.9	27.7	16.5	4.2	0.3	28.2	34.2
	2015	695	36.0	21.1	36.0	23.0	14.0	5.7	0.3	33.3	38.4
Abu Dhabi, UAE	2011	623	47.0	18.6	47.0	19.0	13.5	2.0	0.0	45.7	48.0
	2015	698	44.2	17.4	44.2	19.5	16.9	2.1	0.0	48.0	40.7
Dubai, UAE	2011	784	47.9	17.9	47.9	20.0	12.1	1.8	0.2	45.5	50.1
	2015	877	51.2	15.6	51.2	19.3	12.2	1.8	0.0	51.3	51.1
Florida, US	2011	239	45.6	15.1	45.6	19.9	19.1	0.2	0.0	41.9	49.1
	2015	302	36.6	17.0	36.6	26.2	18.9	1.0	0.3	35.8	37.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_04 (S042110): Chemistry / Applying Type: MC Key: D
Label: Which nails rusted most

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	78.5	3.0	13.9	4.1	78.5	0.5	0.0	76.1	81.0
	2015	1474	72.6	4.2	16.3	5.8	72.6	0.6	0.4	73.3	72.0
Bahrain	2011	654	55.6	10.4	22.0	10.6	55.6	1.2	0.2	58.1	53.1
	2015	693	54.3	15.3	19.2	10.7	54.3	0.5	0.1	51.5	56.9
Botswana	2011	766	75.4	5.4	13.1	5.3	75.4	0.8	0.0	76.4	74.4
	2015	858	71.1	6.3	15.3	6.2	71.1	0.8	0.4	74.4	67.6
Chile	2011	830	74.2	2.5	13.5	7.6	74.2	1.6	0.5	73.3	75.3
	2015	679	71.9	5.2	13.4	8.6	71.9	0.9	0.0	72.6	71.1
Chinese Taipei	2011	716	86.6	4.4	7.4	1.7	86.6	0.0	0.0	85.7	87.4
	2015	820	87.7	3.2	7.5	1.5	87.7	0.2	0.0	86.6	88.8
England	2011	545	75.1	6.7	11.6	5.9	75.1	0.5	0.2	72.8	77.0
	2015	678	69.5	7.4	15.3	7.1	69.5	0.6	0.1	69.4	69.7
Georgia	2011	655	71.4	5.6	8.0	11.2	71.4	2.9	1.0	67.5	75.0
	2015	577	63.1	13.5	8.3	13.3	63.1	1.5	0.3	55.4	70.5
Hong Kong SAR	2011	574	75.3	7.5	12.9	4.3	75.3	0.0	0.0	76.8	73.9
	2015	598	76.3	8.1	9.6	5.8	76.3	0.3	0.0	80.0	73.3
Hungary	2011	739	75.3	5.4	11.1	7.6	75.3	0.6	0.0	70.1	79.6
	2015	706	77.5	4.1	10.0	7.7	77.5	0.8	0.0	76.5	78.4
Iran, Islamic Rep. of	2011	870	68.8	8.6	10.7	10.9	68.8	1.0	0.0	70.5	67.4
	2015	863	69.7	8.3	9.2	11.6	69.7	1.1	0.1	73.1	66.5
Israel	2011	661	71.2	9.8	12.3	5.8	71.2	0.7	0.2	71.5	71.0
	2015	771	65.7	9.5	13.8	10.0	65.7	0.8	0.1	63.5	67.5
Italy	2011	565	76.3	6.9	9.6	5.9	76.3	1.3	0.0	74.7	77.9
	2015	640	72.9	6.2	11.3	8.5	72.9	1.0	0.0	69.5	76.5
Japan	2011	627	71.8	14.7	8.6	4.4	71.8	0.5	0.0	75.2	68.1
	2015	682	75.6	9.7	10.3	4.3	75.6	0.0	0.1	77.3	73.9
Jordan	2011	1079	66.6	16.5	9.8	5.8	66.6	1.4	0.0	70.9	62.7
	2015	1122	64.0	16.1	12.6	6.1	64.0	1.2	0.1	62.9	65.2
Kazakhstan	2011	622	67.2	4.6	15.8	10.4	67.2	1.9	0.0	67.1	67.4
	2015	700	75.7	4.7	10.3	7.9	75.7	1.2	0.3	75.3	76.1
Korea, Rep. of	2011	743	75.8	5.7	12.2	6.2	75.8	0.1	0.0	80.0	71.3
	2015	756	74.2	4.7	14.5	6.6	74.2	0.0	0.0	74.1	74.3
Lebanon	2011	564	52.7	11.6	22.2	11.1	52.7	2.4	0.0	49.4	56.7
	2015	540	52.2	9.5	18.0	14.7	52.2	5.4	0.2	51.5	53.1
Lithuania	2011	674	85.7	3.0	5.9	5.0	85.7	0.4	0.0	82.8	88.4
	2015	619	87.2	1.3	6.5	4.6	87.2	0.4	0.0	89.0	85.3

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_04 (S042110): Chemistry / Applying Type: MC Key: D
Label: Which nails rusted most

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	72.5	8.0	13.9	4.9	72.5	0.8	0.0	71.5	73.4
	2015	1392	77.3	7.9	10.5	4.0	77.3	0.2	0.1	75.5	79.1
Morocco	2011	1322	62.6	6.9	17.9	9.5	62.6	2.2	1.0	64.7	60.6
	2015	1856	62.0	6.4	17.1	11.8	62.0	2.5	0.2	65.3	59.4
New Zealand	2011	756	76.5	4.5	13.4	4.8	76.5	0.6	0.1	78.8	74.4
	2015	1176	75.9	3.9	13.5	5.7	75.9	1.0	0.0	76.2	75.5
Oman	2011	1368	44.9	11.6	29.2	12.9	44.9	1.0	0.3	49.1	40.5
	2015	1257	44.8	15.7	24.3	13.6	44.8	1.4	0.2	42.6	46.8
Qatar	2011	635	49.5	14.0	25.6	9.4	49.5	1.1	0.4	53.2	45.9
	2015	774	55.7	14.3	18.7	9.9	55.7	1.4	0.0	53.0	58.2
Russian Federation	2011	707	91.3	1.3	2.8	3.5	91.3	0.7	0.3	90.2	92.4
	2015	685	89.7	1.0	4.7	3.6	89.7	0.9	0.1	89.9	89.5
Saudi Arabia	2011	627	56.3	12.9	19.2	11.3	56.3	0.3	0.0	52.2	60.1
	2015	523	44.0	15.4	28.0	12.4	44.0	0.3	0.0	45.5	42.4
Singapore	2011	848	78.9	6.3	9.6	4.9	78.9	0.2	0.0	78.0	79.7
	2015	872	76.5	9.0	9.8	4.7	76.5	0.0	0.0	75.2	77.7
Slovenia	2011	633	82.3	3.9	8.5	3.8	82.3	1.5	0.0	82.4	82.2
	2015	608	75.2	5.0	9.3	7.0	75.2	3.5	0.0	76.5	74.1
South Africa	2011	1713	47.0	9.7	30.5	10.5	47.0	2.2	0.2	48.4	45.6
	2015	1790	55.1	12.1	23.4	8.6	55.1	0.4	0.4	51.6	58.7
Sweden	2011	783	82.9	2.3	8.1	4.7	82.9	1.9	0.1	81.3	84.4
	2015	574	81.8	3.5	8.1	4.9	81.8	1.6	0.2	85.6	78.9
Thailand	2011	875	71.0	5.3	16.1	6.2	71.0	1.1	0.3	70.7	71.2
	2015	920	68.1	5.0	19.8	6.5	68.1	0.7	0.0	70.3	65.2
Turkey	2011	984	49.5	14.7	18.6	16.8	49.5	0.5	0.0	44.8	54.4
	2015	861	47.4	17.3	17.3	17.4	47.4	0.5	0.1	45.6	49.1
United Arab Emirates	2011	1999	58.1	13.2	18.6	9.3	58.1	0.6	0.2	56.7	59.6
	2015	2582	53.3	15.7	20.5	9.6	53.3	0.9	0.0	55.8	50.9
United States	2011	1509	68.9	6.4	16.7	7.2	68.9	0.7	0.1	68.2	69.6
	2015	1463	69.9	6.0	17.5	5.7	69.9	0.6	0.2	70.2	69.7
International Avg (n=33)	2011	28524	69.6	7.7	14.2	7.4	69.6	1.0	0.2	69.4	69.7
	2015	31109	68.4	8.4	14.1	8.1	68.4	1.0	0.1	68.3	68.5
Ontario, Canada	2011	681	74.0	4.1	15.5	5.4	74.0	0.9	0.1	73.1	74.5
	2015	645	74.1	3.0	15.1	7.2	74.1	0.1	0.5	79.1	69.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_04 (S042110): Chemistry / Applying Type: MC Key: D
Label: Which nails rusted most

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	76.1	5.3	10.0	6.8	76.1	1.4	0.4	73.2	79.3
	2015	551	80.4	4.5	9.4	5.6	80.4	0.0	0.0	77.6	83.4
Norway (8)	2011	552	77.8	2.8	13.5	4.8	77.8	0.8	0.3	75.9	80.2
	2015	695	76.3	3.2	12.0	7.4	76.3	0.9	0.3	74.6	77.9
Abu Dhabi, UAE	2011	623	54.5	15.4	19.4	9.8	54.5	0.8	0.0	47.3	60.9
	2015	698	49.0	15.7	24.6	9.8	49.0	0.9	0.0	56.2	42.6
Dubai, UAE	2011	784	60.5	12.8	17.7	8.0	60.5	0.8	0.2	60.2	60.8
	2015	877	58.0	17.2	14.1	9.8	58.0	1.0	0.0	55.7	60.6
Florida, US	2011	239	73.4	8.7	11.6	6.4	73.4	0.0	0.0	75.7	71.2
	2015	302	60.7	10.5	20.9	7.1	60.7	0.3	0.5	63.7	58.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_05A (S042222A): Biology / Applying Type: CR 1 Point
Label: Life cycle stage monarch grows

COUNTRY	Year	N	10 %	19 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	24.5	0.0	20.4	43.5	11.7	0.0	24.5	25.2	23.7
	2015	1474	15.9	0.0	31.5	41.3	11.0	0.4	15.9	16.0	15.8
Bahrain	2011	654	12.2	3.4	7.7	62.3	14.3	0.2	15.6	17.7	13.5
	2015	693	15.4	2.7	5.9	63.7	12.4	0.1	18.0	23.1	13.3
Botswana	2011	768	5.4	3.2	15.0	67.1	9.1	0.1	8.6	9.6	7.6
	2015	859	4.8	0.9	9.9	76.3	7.6	0.5	5.8	4.5	7.0
Chile	2011	830	10.8	0.0	17.2	49.7	21.8	0.5	10.8	11.7	9.9
	2015	679	13.4	0.7	15.5	43.1	27.3	0.0	14.0	12.8	15.3
Chinese Taipei	2011	716	15.3	0.0	9.5	62.7	12.5	0.0	15.3	18.0	12.8
	2015	820	10.4	0.0	6.5	73.0	10.1	0.0	10.4	8.7	12.1
England	2011	545	17.9	0.0	22.1	43.1	16.6	0.2	17.9	19.6	16.5
	2015	678	30.2	0.4	12.6	40.7	15.8	0.3	30.6	33.9	26.8
Georgia	2011	655	3.7	1.2	5.2	38.9	50.1	1.0	4.9	5.3	4.5
	2015	577	3.5	0.8	4.0	45.7	45.7	0.3	4.3	3.9	4.7
Hong Kong SAR	2011	574	15.1	0.2	27.1	45.2	12.4	0.0	15.3	16.0	14.6
	2015	598	21.1	0.0	16.5	50.5	11.9	0.0	21.1	19.9	22.0
Hungary	2011	739	30.6	0.0	19.5	39.3	10.6	0.0	30.6	28.0	32.7
	2015	706	29.9	0.0	12.7	48.0	9.3	0.0	29.9	27.2	32.8
Iran, Islamic Rep. of	2011	870	14.1	2.2	12.3	52.9	18.4	0.0	16.4	18.2	14.8
	2015	863	17.6	0.0	8.7	57.3	16.1	0.3	17.6	17.9	17.3
Israel	2011	661	15.9	0.2	18.7	47.7	17.4	0.2	16.1	14.1	17.9
	2015	771	26.0	0.2	10.6	43.9	19.3	0.1	26.2	27.3	25.2
Italy	2011	565	9.4	0.4	23.2	50.6	16.3	0.0	9.9	6.9	12.7
	2015	640	9.7	0.3	19.8	51.7	18.5	0.0	10.0	9.8	10.3
Japan	2011	627	43.9	0.0	22.9	28.4	4.7	0.0	43.9	43.5	44.4
	2015	682	34.0	0.0	35.1	27.7	3.0	0.1	34.0	35.6	32.4
Jordan	2011	1079	7.8	2.9	6.8	69.9	12.5	0.0	10.7	14.6	7.2
	2015	1122	7.2	1.1	3.0	75.4	13.2	0.1	8.3	9.9	6.5
Kazakhstan	2011	622	16.2	7.2	2.8	51.1	22.7	0.0	23.4	24.7	22.2
	2015	701	25.6	0.0	3.5	53.9	16.8	0.3	25.6	27.7	23.3
Korea, Rep. of	2011	743	22.1	0.1	29.6	38.1	10.1	0.0	22.2	21.3	23.1
	2015	756	18.4	0.0	26.5	45.1	10.0	0.0	18.4	16.7	20.0
Lebanon	2011	570	3.6	1.6	2.4	56.8	35.5	0.1	5.2	4.6	6.0
	2015	550	3.0	5.6	2.4	47.6	41.1	0.3	8.6	9.5	7.6
Lithuania	2011	674	11.8	0.1	26.0	48.4	13.7	0.0	11.9	13.4	10.7
	2015	619	12.9	0.0	20.5	50.8	15.8	0.0	12.9	10.0	15.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_05A (S042222A): Biology / Applying Type: CR 1 Point
Label: Life cycle stage monarch grows

COUNTRY	Year	N	10 %	19 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	9.4	0.8	16.7	59.4	13.4	0.1	10.3	9.5	11.0
	2015	1392	15.3	0.5	18.4	53.6	12.1	0.1	15.8	16.1	15.6
Morocco	2011	1334	5.5	1.5	0.9	67.9	22.9	1.3	7.0	6.3	7.6
	2015	1858	5.9	0.1	8.3	62.8	22.7	0.3	6.0	6.6	5.4
New Zealand	2011	756	29.2	0.0	23.7	38.8	8.1	0.2	29.2	31.8	26.9
	2015	1176	35.3	0.1	15.1	40.9	8.7	0.0	35.4	38.2	32.4
Oman	2011	1368	9.2	0.9	7.4	65.4	16.7	0.3	10.2	12.4	7.8
	2015	1256	13.1	2.7	12.3	61.7	10.0	0.2	15.8	19.7	12.4
Qatar	2011	635	9.2	0.0	13.8	56.0	20.6	0.4	9.2	7.9	10.4
	2015	774	16.6	0.3	8.6	61.4	13.0	0.0	16.9	17.0	16.9
Russian Federation	2011	707	29.2	0.2	13.8	37.3	19.3	0.3	29.4	25.7	33.1
	2015	685	21.1	0.4	7.5	50.9	20.0	0.1	21.5	20.5	22.4
Saudi Arabia	2011	628	9.7	12.0	3.4	62.5	12.3	0.0	21.7	23.6	20.0
	2015	524	8.1	0.4	11.6	65.2	14.6	0.0	8.6	8.4	8.7
Singapore	2011	848	50.3	0.1	18.6	26.4	4.5	0.0	50.5	50.9	50.1
	2015	872	56.1	0.1	23.2	18.2	2.3	0.0	56.3	58.9	53.9
Slovenia	2011	633	27.0	0.0	5.2	51.7	16.1	0.0	27.0	25.5	28.4
	2015	608	24.0	0.2	4.6	56.3	14.8	0.0	24.2	30.5	18.7
South Africa	2011	1713	4.9	1.2	2.5	77.1	14.1	0.2	6.1	6.3	5.9
	2015	1790	4.3	1.1	3.1	81.4	9.7	0.4	5.4	5.7	5.2
Sweden	2011	783	23.1	0.7	6.1	45.3	24.6	0.1	23.8	25.3	22.5
	2015	573	26.8	0.1	9.4	42.9	20.6	0.3	26.9	25.4	28.6
Thailand	2011	875	11.7	0.3	21.9	47.8	18.0	0.3	12.0	10.6	13.8
	2015	920	12.9	0.6	20.4	49.9	16.1	0.1	13.5	12.8	14.3
Turkey	2011	984	8.2	0.7	13.0	52.9	25.2	0.0	8.9	8.7	9.2
	2015	861	15.4	7.3	14.6	44.4	18.1	0.1	22.7	23.3	22.1
United Arab Emirates	2011	1999	16.2	0.1	18.5	54.3	10.7	0.2	16.3	18.1	14.6
	2015	2582	16.5	1.0	15.9	55.6	10.9	0.0	17.6	22.2	13.2
United States	2011	1509	45.6	0.0	14.4	35.8	4.0	0.3	45.6	46.0	45.2
	2015	1463	37.9	0.1	21.7	35.7	4.3	0.2	38.0	40.9	35.0

International Avg (n=33)	2011	28545	17.2	1.3	14.2	50.7	16.4	0.2	18.5	18.8	18.2
	2015	31122	18.4	0.8	13.3	52.0	15.2	0.1	19.3	20.0	18.6

Ontario, Canada	2011	681	33.0	2.4	11.8	41.2	11.4	0.2	35.4	35.4	35.6
	2015	645	22.2	1.5	21.6	46.7	7.4	0.5	23.8	26.4	21.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_05A (S042222A): Biology / Applying Type: CR 1 Point
Label: Life cycle stage monarch grows

COUNTRY	Year	N	10 %	19 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	34.5	1.8	14.7	35.0	13.5	0.4	36.4	40.1	32.2
	2015	551	27.8	1.3	25.1	36.7	9.1	0.0	29.2	28.3	30.1
Norway (8)	2011	552	21.6	0.0	9.0	51.5	17.6	0.3	21.6	23.0	19.9
	2015	695	16.3	0.2	5.6	52.9	24.8	0.3	16.5	17.0	15.9
Abu Dhabi, UAE	2011	623	15.3	0.2	17.8	57.5	9.2	0.0	15.5	16.2	14.8
	2015	698	13.5	1.4	14.5	57.6	13.0	0.0	14.8	20.0	10.1
Dubai, UAE	2011	784	19.1	0.0	19.2	49.3	12.1	0.2	19.1	20.8	17.7
	2015	877	22.7	0.7	18.8	50.1	7.7	0.0	23.4	30.6	15.4
Florida, US	2011	239	45.2	0.0	13.5	37.2	4.0	0.0	45.2	50.2	40.5
	2015	302	31.7	0.0	19.9	40.1	7.8	0.5	31.7	34.5	29.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_05B (S042222B): Biology / Applying Type: CR 1 Point
Label: Life cycle stage monarch develops

COUNTRY	Year	N	10 %	11 %	19 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	8.9	31.9	0.2	45.4	13.5	0.0	41.1	42.9	39.2
	2015	1474	9.4	28.6	0.0	47.7	13.9	0.4	38.0	43.7	32.0
Bahrain	2011	654	8.6	11.8	6.9	54.0	18.2	0.4	27.3	31.9	22.7
	2015	693	9.8	13.2	0.1	62.2	14.6	0.1	23.1	29.8	16.9
Botswana	2011	767	3.6	5.7	1.5	77.1	11.9	0.1	10.8	11.1	10.5
	2015	859	2.4	6.9	0.8	78.9	10.0	1.0	10.1	10.6	9.6
Chile	2011	830	5.3	15.3	0.2	50.8	27.8	0.6	20.8	20.9	20.7
	2015	679	6.1	20.6	0.2	36.8	36.2	0.1	27.0	24.6	29.4
Chinese Taipei	2011	716	2.5	22.3	0.2	57.5	17.4	0.0	25.0	28.3	22.0
	2015	820	1.0	12.9	0.0	72.6	13.5	0.0	13.9	13.8	14.0
England	2011	545	7.4	27.2	0.0	46.1	19.0	0.2	34.6	37.2	32.4
	2015	678	9.1	31.2	0.7	39.0	19.8	0.3	40.9	47.9	33.0
Georgia	2011	655	1.8	3.4	1.2	32.8	59.9	1.0	6.4	5.7	7.1
	2015	577	1.4	5.2	1.1	38.5	52.9	0.9	7.7	7.8	7.7
Hong Kong SAR	2011	574	4.0	27.5	0.3	51.9	16.2	0.0	31.9	34.5	29.1
	2015	598	6.8	24.8	0.2	52.3	15.9	0.0	31.8	31.4	32.1
Hungary	2011	739	3.7	34.5	0.0	45.6	15.7	0.5	38.1	38.2	38.0
	2015	706	5.5	30.2	0.0	50.9	13.4	0.0	35.7	36.6	34.8
Iran, Islamic Rep. of	2011	870	5.1	19.4	3.9	44.9	26.5	0.2	28.4	31.5	25.7
	2015	863	5.2	24.8	0.1	42.3	27.3	0.3	30.1	32.2	28.2
Israel	2011	661	3.6	29.0	0.0	47.3	19.9	0.2	32.6	35.3	30.1
	2015	771	5.3	26.4	0.1	45.5	22.6	0.2	31.8	29.8	33.5
Italy	2011	565	4.3	19.9	0.9	50.8	23.8	0.3	25.2	24.3	26.1
	2015	640	2.0	22.6	0.2	50.9	24.3	0.0	24.8	26.9	22.6
Japan	2011	627	8.1	43.6	0.1	42.7	5.4	0.0	51.9	49.5	54.4
	2015	682	10.2	37.9	0.0	47.4	4.3	0.1	48.1	50.4	45.8
Jordan	2011	1079	6.8	5.4	2.2	69.7	15.9	0.0	14.3	16.7	12.1
	2015	1122	9.1	1.5	3.2	68.4	17.8	0.1	13.8	15.9	11.5
Kazakhstan	2011	621	14.1	2.8	4.8	41.2	37.0	0.1	21.7	25.6	18.1
	2015	701	24.3	1.1	0.2	46.7	27.5	0.3	25.6	26.8	24.3
Korea, Rep. of	2011	743	6.8	29.4	0.0	48.3	15.5	0.0	36.2	36.4	35.9
	2015	756	4.4	27.0	1.4	50.6	16.7	0.0	32.7	35.4	30.4
Lebanon	2011	570	2.2	7.5	0.7	47.4	42.0	0.1	10.4	9.0	12.2
	2015	550	1.9	7.3	1.1	38.5	50.5	0.7	10.3	11.3	9.1
Lithuania	2011	674	4.9	13.2	1.3	63.3	17.2	0.1	19.4	23.3	15.9
	2015	619	5.9	19.8	0.0	55.2	19.1	0.0	25.7	29.1	22.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_05B (S042222B): Biology / Applying Type: CR 1 Point
Label: Life cycle stage monarch develops

COUNTRY	Year	N	10 %	11 %	19 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	2.0	18.1	1.7	57.3	20.4	0.5	21.8	25.6	18.3
	2015	1392	5.1	25.1	0.4	50.6	18.8	0.2	30.5	32.0	29.0
Morocco	2011	1333	4.0	9.9	1.0	52.2	31.0	2.0	14.8	15.5	14.2
	2015	1854	6.5	1.2	0.1	58.3	33.5	0.4	7.7	8.7	7.0
New Zealand	2011	756	9.0	37.4	0.2	42.6	10.6	0.3	46.6	48.2	45.1
	2015	1176	8.5	39.1	0.0	37.4	14.9	0.0	47.7	54.0	40.8
Oman	2011	1368	4.8	5.5	0.5	66.3	22.6	0.3	10.8	14.0	7.4
	2015	1257	5.6	8.4	2.1	70.6	12.9	0.3	16.1	18.4	14.1
Qatar	2011	635	3.6	15.2	0.3	57.4	23.0	0.6	19.1	20.5	17.6
	2015	774	11.1	13.8	0.6	56.0	18.6	0.0	25.5	27.4	23.6
Russian Federation	2011	707	5.1	20.7	0.5	49.0	24.0	0.7	26.2	26.1	26.3
	2015	685	11.0	17.7	0.3	47.0	23.7	0.3	29.1	29.3	28.8
Saudi Arabia	2011	628	6.5	9.6	11.6	56.4	15.7	0.1	27.7	28.5	27.1
	2015	524	7.7	11.6	0.7	59.2	20.7	0.0	20.0	21.6	18.4
Singapore	2011	848	15.0	47.9	0.2	30.7	6.2	0.0	63.1	66.6	59.9
	2015	872	16.5	57.6	3.3	19.3	3.3	0.0	77.4	77.2	77.6
Slovenia	2011	633	4.2	30.5	0.0	47.3	18.0	0.0	34.7	37.1	32.5
	2015	608	14.0	20.8	0.4	45.2	19.7	0.0	35.1	39.9	30.8
South Africa	2011	1713	4.4	1.6	3.1	72.6	17.7	0.5	9.2	9.3	9.1
	2015	1790	3.1	3.5	0.8	79.0	13.1	0.5	7.4	6.9	8.0
Sweden	2011	782	4.4	23.8	0.0	42.7	28.9	0.3	28.2	30.7	25.8
	2015	573	5.3	27.4	0.0	42.7	24.3	0.3	32.6	38.0	28.7
Thailand	2011	875	2.7	21.0	0.0	55.2	20.6	0.4	23.7	20.0	28.3
	2015	920	3.6	22.8	1.2	53.3	18.8	0.3	27.7	29.9	24.9
Turkey	2011	984	2.3	10.1	1.0	54.8	31.6	0.1	13.5	12.7	14.3
	2015	860	8.4	15.0	3.9	50.3	22.2	0.1	27.3	30.5	24.3
United Arab Emirates	2011	1999	7.9	19.9	0.8	56.9	14.3	0.3	28.6	31.7	25.5
	2015	2580	8.3	20.6	2.0	54.8	14.2	0.0	30.9	37.1	25.0
United States	2011	1509	9.9	37.7	0.0	46.4	5.7	0.3	47.6	49.9	45.2
	2015	1463	7.9	39.5	0.3	45.2	6.7	0.5	47.7	52.2	43.2

International Avg (n=33)	2011	28541	5.7	20.0	1.4	51.7	21.0	0.3	27.0	28.4	25.7
	2015	31116	7.3	20.2	0.8	51.3	20.2	0.2	28.3	30.5	26.1

Ontario, Canada	2011	681	9.5	36.3	0.0	39.0	14.7	0.4	45.9	45.6	46.4
	2015	645	9.3	31.4	3.2	44.3	11.2	0.7	43.8	48.4	39.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_05B (S042222B): Biology / Applying Type: CR 1 Point
Label: Life cycle stage monarch develops

COUNTRY	Year	N	10 %	11 %	19 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	10.8	33.9	1.9	35.8	17.0	0.5	46.7	49.5	43.5
	2015	551	7.2	41.9	2.3	34.7	13.8	0.0	51.5	53.5	49.3
Norway (8)	2011	552	5.9	23.9	0.1	46.4	23.4	0.3	29.9	30.6	29.0
	2015	695	4.4	19.5	0.8	44.0	30.9	0.4	24.7	31.6	18.2
Abu Dhabi, UAE	2011	623	8.7	17.7	0.8	58.6	14.0	0.2	27.2	30.5	24.4
	2015	698	6.8	16.9	0.9	59.3	16.0	0.0	24.7	32.0	18.1
Dubai, UAE	2011	784	6.1	26.5	0.2	51.9	14.9	0.3	32.8	35.5	30.4
	2015	875	11.6	28.5	2.6	46.4	11.0	0.0	42.6	49.6	34.8
Florida, US	2011	239	13.7	33.0	0.0	47.6	5.7	0.0	46.7	51.9	41.7
	2015	302	5.3	32.9	0.3	49.8	11.2	0.5	38.5	43.4	34.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_05C (S042222C): Biology / Applying Type: MC Key: B
Label: Advantage for viceroy butterfly

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	77.1	6.0	77.1	6.2	6.5	4.2	0.0	77.8	76.4
	2015	1474	78.5	6.1	78.5	6.7	6.6	1.7	0.4	80.4	76.5
Bahrain	2011	654	56.0	17.1	56.0	19.8	5.0	1.7	0.4	56.5	55.5
	2015	693	60.4	13.3	60.4	16.8	6.9	2.5	0.1	63.3	57.7
Botswana	2011	767	44.6	22.8	44.6	20.8	8.3	2.8	0.6	44.1	45.2
	2015	859	50.6	20.4	50.6	17.3	8.1	2.4	1.2	53.1	48.1
Chile	2011	830	76.5	8.1	76.5	7.6	4.5	2.6	0.7	77.7	75.1
	2015	679	75.0	7.9	75.0	8.2	5.1	3.4	0.4	78.8	71.0
Chinese Taipei	2011	716	61.6	5.2	61.6	7.9	25.1	0.3	0.0	69.1	54.7
	2015	820	65.5	4.8	65.5	6.3	23.1	0.3	0.0	69.9	61.1
England	2011	545	78.2	7.4	78.2	7.8	3.5	2.8	0.2	79.7	76.9
	2015	678	78.8	5.7	78.8	5.3	7.2	2.7	0.3	80.3	77.2
Georgia	2011	655	58.0	10.3	58.0	12.6	7.5	10.7	1.0	66.6	50.0
	2015	577	58.4	10.7	58.4	13.5	5.5	11.1	0.9	61.8	55.1
Hong Kong SAR	2011	574	56.9	5.7	56.9	12.1	23.8	1.5	0.0	61.5	52.0
	2015	598	59.0	5.0	59.0	10.6	24.3	1.1	0.0	65.8	53.4
Hungary	2011	739	79.3	2.3	79.3	8.9	7.6	1.3	0.5	77.4	80.9
	2015	706	82.2	2.5	82.2	6.5	7.8	1.0	0.0	83.3	81.0
Iran, Islamic Rep. of	2011	870	52.5	13.7	52.5	20.2	9.5	3.7	0.2	58.9	47.0
	2015	863	51.1	15.1	51.1	19.9	7.9	5.5	0.6	52.6	49.8
Israel	2011	661	73.5	7.4	73.5	9.8	5.4	3.6	0.2	77.2	69.8
	2015	771	72.4	9.5	72.4	9.4	5.7	2.9	0.2	75.7	69.6
Italy	2011	565	74.1	7.5	74.1	9.3	5.7	3.1	0.3	75.4	72.9
	2015	640	77.2	5.6	77.2	6.2	6.7	4.3	0.0	79.4	74.9
Japan	2011	627	71.8	9.6	71.8	6.2	11.4	1.0	0.0	71.9	71.8
	2015	682	75.6	6.1	75.6	4.5	13.4	0.3	0.1	76.6	74.6
Jordan	2011	1079	51.6	15.9	51.6	20.7	9.5	2.3	0.0	52.5	50.8
	2015	1122	54.3	18.0	54.3	17.4	7.9	2.3	0.1	55.6	52.9
Kazakhstan	2011	622	37.0	18.5	37.0	17.9	20.7	5.9	0.1	41.5	32.8
	2015	701	45.0	17.0	45.0	13.1	20.4	4.2	0.3	45.5	44.5
Korea, Rep. of	2011	743	88.3	3.0	88.3	1.7	5.8	1.2	0.0	89.2	87.4
	2015	756	83.9	3.2	83.9	5.7	7.1	0.2	0.0	84.8	83.1
Lebanon	2011	563	37.7	18.5	37.7	17.4	11.5	14.9	0.1	36.1	39.7
	2015	544	34.8	19.5	34.8	18.0	9.1	17.8	0.9	31.8	38.4
Lithuania	2011	674	72.2	6.4	72.2	9.3	8.3	3.6	0.1	77.6	67.5
	2015	619	76.7	6.2	76.7	5.9	6.7	4.5	0.0	79.6	73.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_05C (S042222C): Biology / Applying Type: MC Key: B
Label: Advantage for viceroy butterfly

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	54.6	15.1	54.6	17.1	11.1	1.3	0.7	58.9	50.7
	2015	1392	57.4	13.4	57.4	15.7	11.4	1.5	0.5	61.9	52.7
Morocco	2011	1311	40.4	20.8	40.4	25.4	7.9	3.3	2.3	44.1	37.0
	2015	1857	40.5	20.6	40.5	25.8	7.9	4.8	0.5	41.5	39.7
New Zealand	2011	756	72.8	7.2	72.8	8.5	7.9	3.3	0.3	72.1	73.5
	2015	1176	75.7	6.6	75.7	6.5	7.9	3.2	0.0	78.9	72.3
Oman	2011	1368	36.8	25.0	36.8	26.7	8.1	3.0	0.4	37.7	35.8
	2015	1256	44.7	21.5	44.7	20.0	10.0	3.3	0.5	47.0	42.6
Qatar	2011	635	52.2	20.6	52.2	19.0	5.6	2.1	0.6	53.8	50.7
	2015	774	60.9	16.3	60.9	14.5	6.7	1.4	0.3	64.7	57.1
Russian Federation	2011	707	65.8	9.8	65.8	8.4	8.5	6.7	0.8	66.8	64.9
	2015	685	66.3	8.7	66.3	7.6	11.1	5.9	0.3	72.9	60.2
Saudi Arabia	2011	627	48.1	22.6	48.1	21.2	6.7	0.8	0.6	49.2	47.2
	2015	523	50.1	22.0	50.1	18.4	8.0	1.5	0.0	49.2	50.9
Singapore	2011	848	84.9	4.4	84.9	6.2	3.9	0.6	0.0	88.1	81.8
	2015	872	88.9	3.7	88.9	2.8	4.1	0.5	0.0	90.4	87.6
Slovenia	2011	633	67.8	11.5	67.8	7.2	9.6	3.9	0.0	65.5	70.0
	2015	608	72.4	8.8	72.4	8.8	6.2	3.7	0.0	75.2	70.0
South Africa	2011	1713	39.5	27.2	39.5	17.5	11.1	4.0	0.8	39.7	39.3
	2015	1790	46.1	25.7	46.1	14.5	11.0	2.1	0.6	48.3	43.9
Sweden	2011	783	64.1	9.4	64.1	12.2	8.5	5.6	0.3	65.2	63.1
	2015	574	66.8	9.0	66.8	10.7	7.0	6.2	0.3	69.5	65.4
Thailand	2011	875	42.1	15.0	42.1	24.2	12.0	6.1	0.4	44.0	39.8
	2015	920	44.4	18.0	44.4	18.4	15.2	3.7	0.3	48.2	39.8
Turkey	2011	984	61.8	16.6	61.8	12.8	5.7	3.0	0.1	60.8	62.8
	2015	860	65.7	16.0	65.7	10.0	6.1	2.2	0.1	65.7	65.6
United Arab Emirates	2011	1999	60.0	15.7	60.0	14.2	7.6	2.2	0.3	61.7	58.3
	2015	2582	64.3	14.6	64.3	11.8	7.2	2.1	0.0	67.1	61.7
United States	2011	1509	79.0	4.4	79.0	6.4	8.4	1.4	0.3	81.3	76.7
	2015	1463	80.3	4.4	80.3	5.2	7.6	1.8	0.6	84.8	75.9

International Avg (n=33)	2011	28513	61.1	12.4	61.1	13.4	9.2	3.5	0.4	63.0	59.3
	2015	31114	63.8	11.7	63.8	11.6	9.3	3.4	0.3	66.2	61.5

Ontario, Canada	2011	681	74.1	5.4	74.1	6.6	10.1	3.4	0.4	73.4	74.5
	2015	645	77.0	5.8	77.0	3.1	11.3	1.8	1.0	77.2	76.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_05C (S042222C): Biology / Applying Type: MC Key: B
Label: Advantage for viceroy butterfly

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	76.8	2.2	76.8	6.2	11.3	2.9	0.6	78.5	74.8
	2015	551	84.4	2.9	84.4	4.6	7.0	1.2	0.0	85.6	83.1
Norway (8)	2011	552	67.0	4.7	67.0	8.7	15.4	4.0	0.3	68.4	65.1
	2015	695	67.0	4.7	67.0	6.6	17.4	4.0	0.4	74.1	60.3
Abu Dhabi, UAE	2011	623	61.2	15.9	61.2	14.7	6.6	1.4	0.2	61.6	60.9
	2015	698	62.2	14.9	62.2	14.0	6.7	2.2	0.0	66.1	58.8
Dubai, UAE	2011	784	66.8	12.9	66.8	10.6	6.8	2.6	0.3	68.8	64.9
	2015	877	72.3	11.8	72.3	7.2	6.9	1.8	0.0	72.4	72.1
Florida, US	2011	239	77.9	5.4	77.9	8.6	7.5	0.6	0.0	82.0	74.0
	2015	302	76.2	7.5	76.2	10.0	3.1	2.7	0.5	82.7	70.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_06 (S042065): Chemistry / Knowing Type: MC Key: C
Label: Good conductor of heat-electricity

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	76.5	10.6	5.6	76.5	6.4	0.8	0.0	73.1	80.1
	2015	1474	76.5	12.5	3.5	76.5	5.5	1.5	0.5	73.5	79.8
Bahrain	2011	654	77.7	7.1	7.2	77.7	7.3	0.3	0.4	82.2	73.2
	2015	693	82.1	6.6	5.6	82.1	5.5	0.1	0.1	81.4	82.8
Botswana	2011	767	74.7	12.4	5.7	74.7	5.7	0.4	1.2	71.9	77.6
	2015	859	74.4	13.1	5.5	74.4	4.6	1.2	1.2	72.2	76.6
Chile	2011	830	74.6	11.3	7.7	74.6	4.5	1.0	0.8	70.5	79.1
	2015	679	75.5	9.3	8.1	75.5	4.8	1.8	0.6	68.9	82.3
Chinese Taipei	2011	716	92.3	1.9	2.2	92.3	2.9	0.7	0.0	91.7	92.8
	2015	820	95.3	1.6	1.3	95.3	1.8	0.0	0.0	96.2	94.4
England	2011	545	84.5	3.3	5.5	84.5	5.0	1.5	0.2	83.6	85.4
	2015	678	82.5	6.1	5.4	82.5	4.6	1.0	0.4	79.3	86.1
Georgia	2011	655	42.6	13.5	10.1	42.6	31.1	1.8	1.0	37.0	47.8
	2015	577	53.9	12.1	8.4	53.9	23.5	1.0	1.1	52.1	55.6
Hong Kong SAR	2011	574	92.2	3.2	1.5	92.2	2.8	0.4	0.0	92.8	91.6
	2015	598	91.8	3.6	2.1	91.8	1.9	0.6	0.0	90.4	93.1
Hungary	2011	739	81.7	6.8	7.4	81.7	3.2	0.3	0.6	75.4	86.8
	2015	706	79.6	7.0	8.9	79.6	4.3	0.2	0.0	72.1	87.7
Iran, Islamic Rep. of	2011	870	78.4	7.1	5.7	78.4	7.8	0.7	0.3	75.3	81.1
	2015	863	83.4	7.1	3.0	83.4	5.1	0.8	0.6	83.7	83.0
Israel	2011	661	93.1	2.6	1.1	93.1	2.3	0.7	0.2	94.8	91.4
	2015	771	90.5	3.6	2.0	90.5	2.8	0.9	0.2	90.0	90.9
Italy	2011	565	76.1	14.8	4.1	76.1	3.9	0.7	0.3	73.9	78.4
	2015	640	78.2	14.8	4.3	78.2	1.7	1.0	0.0	73.3	83.4
Japan	2011	627	86.5	6.0	5.7	86.5	1.5	0.3	0.0	85.5	87.5
	2015	682	86.0	6.3	5.4	86.0	1.8	0.3	0.1	85.6	86.5
Jordan	2011	1079	87.7	4.1	3.6	87.7	3.1	1.5	0.0	90.9	84.7
	2015	1122	85.5	4.5	3.9	85.5	5.0	0.7	0.4	85.4	85.7
Kazakhstan	2011	622	74.9	12.3	5.1	74.9	6.3	1.3	0.2	67.3	81.8
	2015	701	80.6	7.9	4.8	80.6	5.0	1.4	0.3	76.7	84.9
Korea, Rep. of	2011	743	85.6	2.5	9.3	85.6	2.4	0.2	0.0	85.1	86.2
	2015	756	92.2	2.0	2.0	92.2	3.5	0.2	0.0	92.4	92.1
Lebanon	2011	566	58.7	21.9	6.8	58.7	11.3	1.2	0.1	57.6	60.1
	2015	543	63.6	16.4	5.4	63.6	10.9	2.8	0.9	59.9	67.8
Lithuania	2011	674	75.1	14.7	4.9	75.1	3.8	1.4	0.1	68.8	80.6
	2015	619	69.3	17.4	6.5	69.3	4.7	2.1	0.0	63.0	75.6

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_06 (S042065): Chemistry / Knowing Type: MC Key: C
Label: Good conductor of heat-electricity

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	78.6	6.3	5.9	78.6	7.8	0.7	0.7	80.4	77.0
	2015	1392	88.5	3.2	3.7	88.5	3.5	0.3	0.8	90.6	86.3
Morocco	2011	1322	73.8	8.8	7.7	73.8	5.4	1.8	2.5	69.1	78.0
	2015	1859	81.2	5.7	5.9	81.2	5.0	1.8	0.4	77.9	83.8
New Zealand	2011	756	74.4	13.9	4.8	74.4	6.0	0.5	0.4	66.9	81.1
	2015	1176	72.8	16.0	5.2	72.8	5.0	0.9	0.0	69.6	76.2
Oman	2011	1368	72.1	8.8	12.6	72.1	4.6	1.3	0.6	76.0	68.0
	2015	1257	83.2	5.6	6.0	83.2	3.8	0.9	0.5	83.8	82.6
Qatar	2011	635	74.0	9.1	6.2	74.0	9.4	0.8	0.6	72.2	75.7
	2015	774	79.1	9.4	5.0	79.1	5.6	0.7	0.3	79.0	79.2
Russian Federation	2011	707	82.6	11.1	3.2	82.6	1.6	0.5	1.0	77.4	87.9
	2015	685	84.3	7.9	3.5	84.3	3.5	0.5	0.3	79.7	88.7
Saudi Arabia	2011	628	81.1	5.9	5.6	81.1	6.4	0.4	0.6	78.5	83.5
	2015	524	74.4	10.4	7.6	74.4	6.9	0.6	0.0	73.7	75.2
Singapore	2011	848	94.3	2.1	1.6	94.3	1.5	0.4	0.0	95.3	93.5
	2015	872	93.7	2.2	2.1	93.7	1.8	0.1	0.0	94.6	92.9
Slovenia	2011	633	82.4	8.1	6.3	82.4	2.3	0.9	0.0	75.5	88.8
	2015	608	82.3	9.8	3.7	82.3	2.9	1.3	0.0	78.7	85.4
South Africa	2011	1713	53.8	30.9	7.0	53.8	5.1	2.2	1.1	51.7	55.8
	2015	1790	62.8	21.8	9.1	62.8	4.7	1.0	0.7	60.2	65.3
Sweden	2011	783	83.5	8.4	3.8	83.5	2.8	1.2	0.3	78.2	88.4
	2015	574	87.5	5.3	2.2	87.5	2.3	2.4	0.3	85.1	89.9
Thailand	2011	875	92.3	3.3	1.9	92.3	1.0	1.0	0.6	91.9	92.6
	2015	920	92.9	2.6	0.9	92.9	2.2	1.0	0.4	94.4	91.1
Turkey	2011	984	81.8	3.2	6.3	81.8	7.9	0.7	0.1	78.7	85.0
	2015	861	83.8	2.9	6.1	83.8	6.9	0.2	0.1	80.6	86.9
United Arab Emirates	2011	1999	78.8	7.6	8.2	78.8	4.3	0.8	0.4	78.7	78.9
	2015	2582	81.1	7.5	6.1	81.1	4.6	0.7	0.1	81.8	80.4
United States	2011	1509	74.0	14.8	4.9	74.0	5.4	0.6	0.3	68.7	79.5
	2015	1463	79.1	10.4	4.1	79.1	4.7	1.1	0.6	74.8	83.4

International Avg (n=33)	2011	28528	78.5	9.0	5.6	78.5	5.5	0.9	0.4	76.3	80.6
	2015	31118	80.8	8.3	4.8	80.8	4.9	0.9	0.3	78.8	82.9

Ontario, Canada	2011	681	62.9	22.0	6.6	62.9	7.3	0.8	0.5	58.9	66.1
	2015	645	69.1	18.5	5.3	69.1	5.6	0.1	1.4	63.4	74.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_06 (S042065): Chemistry / Knowing Type: MC Key: C
Label: Good conductor of heat-electricity

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	59.3	30.6	3.6	59.3	4.4	1.6	0.6	50.9	68.7
	2015	551	69.3	25.6	3.2	69.3	1.8	0.1	0.0	61.2	77.7
Norway (8)	2011	552	74.2	11.1	7.0	74.2	5.8	1.5	0.4	71.8	77.1
	2015	695	75.5	8.1	6.7	75.5	6.4	2.9	0.4	70.8	79.8
Abu Dhabi, UAE	2011	623	79.5	7.3	7.6	79.5	4.2	1.2	0.2	76.8	81.9
	2015	698	78.5	6.7	7.6	78.5	6.4	0.5	0.2	81.4	76.0
Dubai, UAE	2011	784	82.7	6.5	6.8	82.7	3.0	0.2	0.7	84.5	81.1
	2015	877	85.2	7.2	4.4	85.2	3.1	0.1	0.0	83.7	86.8
Florida, US	2011	239	79.8	8.8	5.9	79.8	5.5	0.0	0.0	75.7	83.7
	2015	302	79.9	6.8	7.4	79.9	4.0	1.0	0.8	78.0	81.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_07 (S042280): Physics / Reasoning Type: MC Key: D
Label: Relative speed of sound

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	60.1	13.2	14.5	10.4	60.1	1.7	0.0	56.1	64.2
	2015	1474	57.3	13.0	14.5	12.5	57.3	2.1	0.5	58.4	56.2
Bahrain	2011	654	45.7	16.0	20.0	15.0	45.7	2.8	0.4	51.1	40.4
	2015	693	44.7	18.6	16.1	17.7	44.7	2.9	0.1	47.6	42.0
Botswana	2011	767	32.5	17.8	23.6	23.4	32.5	1.4	1.3	28.6	36.6
	2015	859	30.3	20.0	25.8	20.4	30.3	1.6	1.8	28.2	32.5
Chile	2011	830	49.6	18.0	13.5	15.4	49.6	2.7	0.8	50.2	48.9
	2015	679	42.3	24.3	17.2	12.6	42.3	3.1	0.6	37.8	47.0
Chinese Taipei	2011	716	71.3	6.1	15.5	6.5	71.3	0.6	0.0	70.3	72.3
	2015	820	72.6	7.7	13.6	5.9	72.6	0.3	0.0	71.4	73.7
England	2011	545	59.5	10.5	18.7	9.8	59.5	1.3	0.2	58.0	60.9
	2015	678	60.4	10.5	15.1	12.0	60.4	1.6	0.4	58.5	62.7
Georgia	2011	655	33.8	21.3	24.7	13.2	33.8	6.0	1.0	34.6	33.1
	2015	577	39.3	23.1	19.9	12.2	39.3	4.4	1.1	42.5	36.2
Hong Kong SAR	2011	574	74.2	6.5	11.1	7.5	74.2	0.6	0.0	74.7	73.7
	2015	598	71.8	7.5	12.9	7.2	71.8	0.5	0.0	65.2	77.3
Hungary	2011	739	63.0	7.6	19.3	8.8	63.0	0.7	0.6	61.3	64.4
	2015	706	68.2	7.5	15.4	8.4	68.2	0.5	0.0	63.2	73.5
Iran, Islamic Rep. of	2011	870	38.7	15.9	21.9	21.4	38.7	1.7	0.4	33.8	42.9
	2015	863	45.7	15.1	15.1	21.0	45.7	2.4	0.8	45.8	45.5
Israel	2011	661	68.1	11.9	9.4	8.0	68.1	2.3	0.2	71.1	65.2
	2015	771	63.6	12.7	13.1	7.9	63.6	2.5	0.2	65.0	62.3
Italy	2011	565	62.5	15.6	10.6	7.3	62.5	3.7	0.3	63.3	61.8
	2015	640	61.3	17.3	7.8	10.0	61.3	3.5	0.0	62.5	60.0
Japan	2011	627	66.1	5.1	17.3	11.0	66.1	0.5	0.0	64.1	68.2
	2015	682	68.3	7.1	16.3	8.0	68.3	0.1	0.1	67.8	68.7
Jordan	2011	1079	34.4	29.1	16.7	17.7	34.4	2.1	0.0	38.1	31.0
	2015	1122	32.1	27.5	19.4	19.4	32.1	1.0	0.5	33.9	30.2
Kazakhstan	2011	622	37.9	22.5	21.4	14.0	37.9	3.9	0.3	39.0	36.9
	2015	701	50.2	21.3	15.1	8.8	50.2	4.4	0.3	50.3	50.1
Korea, Rep. of	2011	743	79.3	3.6	11.1	5.9	79.3	0.2	0.0	79.1	79.4
	2015	756	78.0	4.6	11.1	6.2	78.0	0.0	0.0	78.4	77.7
Lebanon	2011	564	40.7	16.0	17.0	19.4	40.7	6.5	0.4	41.9	39.2
	2015	538	38.7	15.6	16.3	17.6	38.7	10.9	0.9	37.9	39.6
Lithuania	2011	674	63.7	20.0	7.5	6.7	63.7	2.0	0.1	68.7	59.3
	2015	619	68.6	17.4	5.5	7.7	68.6	0.8	0.0	71.3	65.9

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_07 (S042280): Physics / Reasoning Type: MC Key: D
Label: Relative speed of sound

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	42.8	17.3	24.1	13.6	42.8	1.4	0.7	43.8	42.0
	2015	1392	48.0	10.8	25.0	14.3	48.0	1.1	0.8	48.9	47.1
Morocco	2011	1313	30.3	20.8	23.7	18.1	30.3	3.9	3.1	32.3	28.5
	2015	1859	34.5	21.8	22.4	17.0	34.5	3.9	0.4	35.9	33.4
New Zealand	2011	756	59.9	12.7	14.5	11.5	59.9	1.0	0.4	56.1	63.3
	2015	1176	53.7	13.6	18.9	12.0	53.7	1.8	0.0	52.5	55.0
Oman	2011	1368	33.6	19.5	22.4	21.2	33.6	2.4	1.0	39.2	27.8
	2015	1257	39.9	23.5	19.6	14.3	39.9	2.1	0.5	43.2	37.1
Qatar	2011	635	35.4	19.9	24.9	18.2	35.4	1.1	0.6	36.2	34.7
	2015	774	47.5	19.1	21.3	10.9	47.5	0.9	0.3	49.9	45.2
Russian Federation	2011	707	72.0	12.5	6.8	5.7	72.0	2.0	1.0	70.8	73.2
	2015	685	73.3	10.8	4.5	7.9	73.3	3.1	0.4	70.3	76.1
Saudi Arabia	2011	628	31.4	23.0	20.9	23.6	31.4	0.6	0.6	27.2	35.4
	2015	524	31.2	23.1	23.8	21.5	31.2	0.2	0.2	32.6	29.6
Singapore	2011	848	75.9	7.3	10.3	6.2	75.9	0.3	0.0	74.8	76.9
	2015	872	82.0	5.5	8.1	4.1	82.0	0.2	0.0	82.1	82.0
Slovenia	2011	633	72.2	11.3	7.5	7.7	72.2	1.3	0.0	66.6	77.4
	2015	608	68.7	11.8	9.8	9.1	68.7	0.6	0.0	67.8	69.4
South Africa	2011	1713	28.7	17.5	28.8	21.3	28.7	2.5	1.3	30.9	26.6
	2015	1790	27.8	17.1	28.3	24.4	27.8	1.6	0.8	27.2	28.4
Sweden	2011	783	54.2	19.3	12.5	11.4	54.2	2.3	0.3	51.7	56.4
	2015	574	62.9	15.3	7.7	9.0	62.9	4.5	0.5	60.1	65.8
Thailand	2011	875	42.3	15.8	21.3	16.1	42.3	3.9	0.6	44.3	39.9
	2015	920	44.5	15.2	22.4	14.7	44.5	2.6	0.5	48.4	39.8
Turkey	2011	984	63.2	13.9	11.9	9.8	63.2	1.1	0.1	65.1	61.3
	2015	861	67.8	16.0	8.4	7.2	67.8	0.4	0.1	70.8	64.9
United Arab Emirates	2011	1999	49.4	16.0	18.2	14.2	49.4	1.7	0.5	50.2	48.6
	2015	2582	47.7	17.7	20.5	11.9	47.7	2.2	0.1	48.7	46.8
United States	2011	1509	62.3	12.1	13.2	11.4	62.3	0.8	0.3	60.7	63.9
	2015	1463	60.5	12.5	13.8	11.2	60.5	1.5	0.6	59.6	61.3
International Avg (n=33)	2011	28517	52.6	15.0	16.8	13.1	52.6	2.0	0.5	52.5	52.6
	2015	31113	54.0	15.3	15.9	12.3	54.0	2.1	0.4	54.1	54.0
Ontario, Canada	2011	681	57.5	11.2	13.7	15.4	57.5	1.5	0.6	54.5	59.8
	2015	645	63.8	10.2	13.6	10.1	63.8	0.9	1.4	63.8	64.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_07 (S042280): Physics / Reasoning Type: MC Key: D
Label: Relative speed of sound

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	64.1	11.8	11.1	10.0	64.1	2.4	0.6	62.5	65.9
	2015	551	66.2	13.5	9.6	9.5	66.2	1.2	0.0	61.9	70.7
Norway (8)	2011	552	48.2	15.6	17.5	15.6	48.2	2.6	0.4	45.4	51.8
	2015	695	49.8	15.1	17.5	12.7	49.8	4.4	0.5	51.4	48.3
Abu Dhabi, UAE	2011	623	47.6	18.8	18.0	13.2	47.6	2.1	0.4	45.4	49.4
	2015	698	37.8	20.1	26.4	13.7	37.8	1.7	0.2	39.1	36.6
Dubai, UAE	2011	784	54.8	12.8	17.0	13.3	54.8	1.5	0.7	54.3	55.2
	2015	877	64.4	11.6	15.9	6.8	64.4	1.3	0.0	62.8	66.1
Florida, US	2011	239	58.4	13.9	14.9	12.8	58.4	0.0	0.0	64.9	52.2
	2015	302	51.7	14.5	16.2	13.3	51.7	3.0	1.3	51.5	51.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_08 (S042088): Chemistry / Applying Type: CR 1 Point
Label: Which solution is more dilute

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	46.6	31.8	18.6	3.1	0.0	46.6	51.3	41.7
	2015	1474	41.4	34.5	19.5	4.0	0.5	41.4	46.3	36.2
Bahrain	2011	654	37.2	29.5	30.4	2.4	0.4	37.2	47.0	27.4
	2015	693	36.4	31.6	28.5	3.4	0.1	36.4	44.2	29.1
Botswana	2011	767	43.6	23.4	29.3	2.2	1.5	43.6	48.3	38.7
	2015	858	39.0	22.2	34.8	1.8	2.1	39.0	45.2	32.7
Chile	2011	830	48.5	23.2	19.0	8.2	1.0	48.5	54.5	41.8
	2015	679	43.3	20.6	25.0	10.5	0.7	43.3	47.8	38.5
Chinese Taipei	2011	716	73.5	12.6	13.2	0.6	0.0	73.5	81.0	66.7
	2015	820	72.7	13.3	13.3	0.7	0.0	72.7	76.3	69.1
England	2011	545	69.5	15.4	12.2	2.6	0.4	69.5	75.6	64.1
	2015	678	60.6	18.8	16.3	3.8	0.4	60.6	63.0	58.0
Georgia	2011	655	28.8	21.8	35.6	12.3	1.5	28.8	29.1	28.5
	2015	577	30.4	28.9	33.2	6.5	1.1	30.4	30.9	29.9
Hong Kong SAR	2011	574	69.3	8.0	22.2	0.5	0.0	69.3	70.3	68.1
	2015	598	65.2	12.7	21.5	0.5	0.0	65.2	73.4	58.4
Hungary	2011	739	64.9	17.9	16.2	0.1	0.9	64.9	66.3	63.7
	2015	706	69.4	16.9	12.8	0.9	0.0	69.4	68.9	69.8
Iran, Islamic Rep. of	2011	870	29.3	46.5	20.3	3.2	0.6	29.3	33.2	26.0
	2015	863	31.5	41.7	21.1	4.6	1.0	31.5	37.5	26.2
Israel	2011	661	35.6	39.7	21.2	3.2	0.2	35.6	44.2	27.4
	2015	771	36.4	37.1	22.3	3.6	0.5	36.4	36.0	36.8
Italy	2011	565	56.5	19.1	19.7	4.5	0.3	56.5	63.7	49.3
	2015	640	54.8	22.4	15.6	7.1	0.1	54.8	62.8	46.2
Japan	2011	627	83.4	3.2	12.3	1.1	0.0	83.4	84.1	82.7
	2015	682	79.4	5.5	14.1	0.8	0.1	79.4	84.6	74.3
Jordan	2011	1079	42.4	28.3	26.2	3.0	0.0	42.4	49.4	36.1
	2015	1122	36.4	4.8	57.9	0.4	0.5	36.4	44.2	27.7
Kazakhstan	2011	622	53.8	8.4	29.0	8.3	0.4	53.8	60.4	47.8
	2015	701	58.2	14.9	23.8	2.9	0.3	58.2	65.4	50.0
Korea, Rep. of	2011	743	58.6	34.7	6.2	0.5	0.0	58.6	59.0	58.0
	2015	756	48.4	41.0	9.7	0.8	0.0	48.4	51.2	46.0
Lebanon	2011	570	32.4	25.4	37.1	4.0	1.1	32.4	32.6	32.3
	2015	550	37.2	25.3	30.1	6.4	1.0	37.2	42.5	31.2
Lithuania	2011	674	66.8	8.9	23.3	0.8	0.1	66.8	74.6	59.9
	2015	619	68.4	13.0	18.0	0.6	0.0	68.4	79.0	57.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_08 (S042088): Chemistry / Applying Type: CR 1 Point
Label: Which solution is more dilute

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	48.9	23.9	23.1	3.2	0.9	48.9	56.2	42.4
	2015	1392	55.5	11.4	29.1	3.2	0.8	55.5	57.5	53.5
Morocco	2011	1319	20.0	18.2	47.8	10.1	3.8	20.0	21.5	18.7
	2015	1855	23.5	33.3	39.3	3.4	0.6	23.5	26.5	21.1
New Zealand	2011	756	47.7	31.5	16.8	3.7	0.4	47.7	50.8	44.9
	2015	1176	44.2	33.6	18.0	4.2	0.0	44.2	47.3	40.8
Oman	2011	1368	32.4	36.7	26.1	3.5	1.2	32.4	41.8	22.6
	2015	1257	37.0	34.6	24.9	3.0	0.5	37.0	44.9	29.9
Qatar	2011	635	28.2	35.1	32.8	3.3	0.6	28.2	35.5	21.2
	2015	773	33.8	29.0	34.3	2.6	0.3	33.8	37.8	29.9
Russian Federation	2011	707	69.5	11.5	16.6	1.2	1.2	69.5	74.1	64.9
	2015	685	65.4	10.9	22.4	0.9	0.4	65.4	69.7	61.3
Saudi Arabia	2011	629	37.8	44.6	15.7	1.3	0.6	37.8	45.4	30.8
	2015	524	30.7	43.1	23.8	1.9	0.5	30.7	40.5	20.4
Singapore	2011	848	63.7	25.0	10.2	1.1	0.0	63.7	69.9	57.7
	2015	872	65.7	22.5	11.4	0.4	0.0	65.7	72.0	60.0
Slovenia	2011	633	77.1	8.8	13.7	0.4	0.0	77.1	84.4	70.3
	2015	608	75.9	7.9	15.9	0.3	0.0	75.9	83.3	69.5
South Africa	2011	1713	34.0	8.0	52.7	3.8	1.5	34.0	38.0	30.1
	2015	1790	46.3	21.0	29.3	2.4	1.0	46.3	50.2	42.4
Sweden	2011	782	67.0	15.8	14.8	2.1	0.3	67.0	72.1	62.3
	2015	572	70.5	15.1	10.8	3.0	0.6	70.5	74.8	67.0
Thailand	2011	874	56.7	14.2	19.0	8.9	1.2	56.7	61.5	50.8
	2015	920	32.7	15.7	45.6	5.4	0.5	32.7	37.9	26.3
Turkey	2011	984	45.1	30.8	18.1	5.9	0.2	45.1	48.6	41.5
	2015	861	45.1	33.8	18.2	2.7	0.3	45.1	53.8	36.8
United Arab Emirates	2011	1999	34.5	27.9	33.9	3.2	0.5	34.5	41.0	28.1
	2015	2582	37.6	34.6	24.6	3.1	0.1	37.6	45.0	30.5
United States	2011	1509	38.5	36.8	21.6	2.9	0.3	38.5	34.9	42.2
	2015	1463	37.8	36.1	23.1	2.2	0.9	37.8	42.8	32.8
International Avg (n=33)	2011	28528	49.7	23.2	22.9	3.5	0.6	49.7	54.6	45.1
	2015	31117	48.8	23.9	23.9	3.0	0.5	48.8	54.0	43.6
Ontario, Canada	2011	681	42.4	30.7	18.5	7.4	0.9	42.4	49.3	36.6
	2015	645	46.3	30.8	16.6	4.8	1.4	46.3	51.4	41.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_08 (S042088): Chemistry / Applying Type: CR 1 Point
Label: Which solution is more dilute

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	68.6	13.1	13.5	4.1	0.7	68.6	72.0	64.9
	2015	551	64.9	15.5	17.8	1.8	0.0	64.9	70.2	59.4
Norway (8)	2011	552	59.2	22.1	15.4	3.0	0.4	59.2	64.2	53.0
	2015	695	50.1	22.2	23.3	3.5	0.8	50.1	57.2	43.6
Abu Dhabi, UAE	2011	623	36.0	27.6	32.6	3.4	0.4	36.0	41.7	31.0
	2015	698	31.0	39.1	25.9	3.8	0.2	31.0	40.6	22.3
Dubai, UAE	2011	784	38.1	32.8	25.2	3.2	0.7	38.1	43.8	32.9
	2015	877	48.4	27.2	20.2	4.1	0.0	48.4	54.3	41.9
Florida, US	2011	239	39.8	33.5	23.3	3.4	0.0	39.8	42.7	37.1
	2015	302	35.3	36.3	22.9	4.0	1.6	35.3	35.4	35.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_09 (S042218): Physics / Applying Type: MC Key: B
Label: Why does a balloon with helium rise

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	48.0	11.1	48.0	6.8	33.1	0.9	0.0	35.9	60.5
	2015	1474	49.4	15.0	49.4	5.1	26.1	3.6	0.8	43.3	55.9
Bahrain	2011	654	40.0	13.8	40.0	10.5	33.6	1.7	0.4	42.3	37.7
	2015	693	40.1	16.8	40.1	7.5	33.9	1.3	0.4	39.1	41.2
Botswana	2011	767	44.8	15.8	44.8	8.5	27.8	1.5	1.6	44.6	45.0
	2015	859	44.3	15.6	44.3	8.8	26.3	2.3	2.8	42.3	46.3
Chile	2011	830	34.6	21.0	34.6	7.3	34.1	1.6	1.4	33.7	35.7
	2015	679	34.9	23.2	34.9	12.8	27.5	1.0	0.7	33.3	36.5
Chinese Taipei	2011	716	74.5	14.0	74.5	0.6	10.6	0.3	0.0	74.7	74.3
	2015	820	74.4	14.8	74.4	1.0	9.4	0.5	0.0	69.8	78.9
England	2011	545	55.1	17.3	55.1	2.0	24.0	1.2	0.4	46.5	62.6
	2015	678	49.8	18.0	49.8	2.8	28.1	0.7	0.6	48.2	51.5
Georgia	2011	655	31.4	13.8	31.4	7.9	39.6	5.4	1.8	30.9	31.9
	2015	577	40.1	12.9	40.1	7.2	36.2	2.6	1.1	35.9	44.2
Hong Kong SAR	2011	574	55.2	19.8	55.2	2.7	22.1	0.2	0.0	50.5	60.1
	2015	598	59.8	21.7	59.8	2.5	15.1	0.8	0.0	53.3	65.2
Hungary	2011	739	60.6	17.1	60.6	3.4	17.6	0.3	0.9	48.8	70.3
	2015	706	66.6	15.7	66.6	2.8	14.0	0.8	0.0	56.6	77.3
Iran, Islamic Rep. of	2011	870	57.2	4.1	57.2	5.9	29.9	2.1	0.8	53.5	60.4
	2015	863	66.9	2.7	66.9	4.2	23.2	1.8	1.2	64.5	69.2
Israel	2011	661	45.3	19.0	45.3	5.9	28.6	1.1	0.2	43.7	46.8
	2015	771	48.0	16.0	48.0	5.2	28.6	1.4	0.8	46.5	49.3
Italy	2011	565	49.1	9.8	49.1	6.4	32.8	1.5	0.3	44.5	53.5
	2015	640	54.0	10.3	54.0	7.5	26.5	1.6	0.1	50.1	58.1
Japan	2011	627	66.0	13.4	66.0	6.1	13.8	0.7	0.0	62.5	69.7
	2015	682	77.9	10.6	77.9	3.4	7.6	0.3	0.1	77.1	78.8
Jordan	2011	1079	42.6	14.5	42.6	8.0	31.7	3.2	0.0	43.2	42.1
	2015	1122	42.5	17.4	42.5	8.0	30.9	0.7	0.5	45.1	39.6
Kazakhstan	2011	622	39.6	15.0	39.6	6.1	36.5	2.4	0.4	38.1	41.0
	2015	701	52.2	12.4	52.2	4.7	28.8	1.7	0.3	50.7	53.9
Korea, Rep. of	2011	743	84.5	7.8	84.5	0.6	7.0	0.2	0.0	84.2	84.7
	2015	756	80.4	10.2	80.4	1.2	7.7	0.5	0.0	80.7	80.1
Lebanon	2011	566	44.0	17.5	44.0	8.3	25.6	3.1	1.5	45.4	42.3
	2015	543	42.9	18.9	42.9	9.8	21.6	5.5	1.3	41.0	45.1
Lithuania	2011	674	35.4	19.5	35.4	7.9	34.0	2.9	0.3	33.4	37.0
	2015	619	33.6	22.7	33.6	5.1	37.4	1.2	0.0	29.1	38.1

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_09 (S042218): Physics / Applying Type: MC Key: B
Label: Why does a balloon with helium rise

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	32.6	14.3	32.6	8.0	42.7	1.3	1.1	28.0	36.7
	2015	1392	45.3	15.9	45.3	5.0	31.2	1.4	1.2	47.8	42.6
Morocco	2011	1323	28.4	15.2	28.4	14.2	34.1	3.8	4.4	23.3	33.1
	2015	1857	30.8	14.7	30.8	12.2	39.3	2.5	0.6	28.7	32.5
New Zealand	2011	756	49.3	15.1	49.3	7.7	27.1	0.4	0.4	38.2	59.2
	2015	1176	51.5	18.4	51.5	4.5	24.6	0.9	0.2	46.1	57.2
Oman	2011	1368	43.2	21.2	43.2	9.7	22.5	1.7	1.7	46.8	39.3
	2015	1253	49.6	21.7	49.6	8.6	17.8	1.7	0.5	54.7	45.0
Qatar	2011	635	43.4	18.5	43.4	8.7	27.1	1.8	0.6	41.6	45.1
	2015	774	55.9	18.2	55.9	5.7	18.5	1.4	0.4	54.7	57.1
Russian Federation	2011	707	62.1	12.9	62.1	5.3	16.3	2.3	1.2	59.5	64.7
	2015	685	60.8	12.3	60.8	6.7	18.0	1.9	0.4	60.9	60.7
Saudi Arabia	2011	629	36.8	19.7	36.8	5.9	36.5	0.6	0.6	32.3	40.9
	2015	523	36.1	19.6	36.1	7.1	35.0	1.6	0.6	34.9	37.3
Singapore	2011	848	72.0	12.2	72.0	3.8	11.4	0.6	0.0	69.9	74.0
	2015	872	76.9	14.6	76.9	2.4	5.8	0.4	0.0	75.6	78.0
Slovenia	2011	633	65.6	15.0	65.6	5.0	13.5	0.9	0.0	59.6	71.1
	2015	608	69.6	17.0	69.6	2.7	8.7	2.0	0.0	71.7	67.8
South Africa	2011	1713	26.8	19.5	26.8	16.8	32.2	2.9	1.7	23.8	29.8
	2015	1790	29.1	17.6	29.1	13.6	35.8	2.5	1.3	25.2	33.0
Sweden	2011	783	41.3	23.6	41.3	6.3	25.7	2.9	0.3	32.4	49.4
	2015	574	49.4	17.7	49.4	5.8	22.9	3.0	1.2	43.4	54.9
Thailand	2011	874	31.9	13.5	31.9	3.1	47.5	2.6	1.4	31.1	32.9
	2015	920	33.2	17.4	33.2	3.5	43.0	2.2	0.6	32.4	34.3
Turkey	2011	984	50.8	17.0	50.8	6.4	24.4	1.1	0.3	47.0	54.8
	2015	861	54.3	17.4	54.3	6.5	21.3	0.2	0.3	54.1	54.4
United Arab Emirates	2011	1999	51.5	16.6	51.5	6.6	23.3	1.4	0.5	53.5	49.6
	2015	2582	56.5	14.7	56.5	5.2	21.6	1.7	0.2	60.0	53.2
United States	2011	1509	65.0	14.8	65.0	3.5	15.1	1.1	0.5	59.4	70.8
	2015	1463	63.0	14.5	63.0	3.5	16.6	0.9	1.5	59.8	66.1

International Avg (n=33)	2011	28529	48.7	15.6	48.7	6.5	26.7	1.7	0.7	45.5	51.7
	2015	31111	52.1	16.0	52.1	5.8	23.9	1.6	0.6	50.2	54.0

Ontario, Canada	2011	681	55.0	13.0	55.0	6.5	22.7	1.6	1.2	48.1	61.0
	2015	644	53.4	14.3	53.4	5.4	25.3	0.0	1.6	42.2	64.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_09 (S042218): Physics / Applying Type: MC Key: B
Label: Why does a balloon with helium rise

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	40.6	17.2	40.6	7.0	33.0	1.6	0.7	31.2	51.3
	2015	550	46.3	17.1	46.3	10.4	25.9	0.2	0.0	39.0	53.8
Norway (8)	2011	552	42.2	16.9	42.2	10.6	27.3	2.5	0.5	35.2	50.8
	2015	695	43.5	18.3	43.5	9.4	26.1	1.8	0.8	37.5	49.0
Abu Dhabi, UAE	2011	623	50.2	15.7	50.2	7.2	24.6	1.8	0.4	45.4	54.5
	2015	698	51.3	15.1	51.3	6.5	25.4	1.4	0.3	57.5	45.7
Dubai, UAE	2011	784	53.3	17.5	53.3	6.6	21.2	0.6	0.8	56.5	50.4
	2015	877	60.5	12.0	60.5	3.7	21.8	1.7	0.2	59.8	61.3
Florida, US	2011	239	66.2	15.9	66.2	3.7	13.2	0.6	0.4	63.3	69.0
	2015	302	53.0	19.7	53.0	5.8	17.0	2.9	1.6	50.3	55.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_10 (S042104): Chemistry / Reasoning Type: CR 1 Point
Label: Balance after HCL-NaOH are mixed

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	21.6	0.7	36.3	15.7	22.8	2.7	0.2	22.3	23.1	21.5
	2015	1474	24.9	1.1	32.3	15.4	23.3	2.0	0.9	26.1	27.3	24.9
Bahrain	2011	654	17.1	0.6	26.4	17.2	34.7	3.7	0.4	17.7	21.9	13.5
	2015	693	16.1	0.0	35.2	13.4	32.1	2.8	0.4	16.2	19.8	12.8
Botswana	2011	767	5.3	0.1	36.6	20.1	32.8	3.0	2.1	5.4	5.9	4.9
	2015	859	2.7	0.0	37.5	18.8	36.2	1.8	3.0	2.7	3.1	2.3
Chile	2011	830	17.2	0.1	33.2	12.6	24.8	10.3	1.7	17.4	19.1	15.4
	2015	679	20.9	0.0	26.6	12.0	31.4	8.5	0.7	20.9	19.9	22.0
Chinese Taipei	2011	714	36.7	0.8	37.9	14.4	9.9	0.3	0.0	37.6	39.5	35.8
	2015	820	32.8	0.3	37.0	17.3	11.8	0.7	0.0	33.2	36.1	30.2
England	2011	545	19.3	2.1	39.9	16.7	18.7	2.9	0.4	21.4	26.4	17.0
	2015	678	28.2	3.2	32.0	11.2	20.7	4.1	0.6	31.4	36.4	25.8
Georgia	2011	652	12.3	0.3	30.4	16.8	16.8	21.3	2.2	12.6	13.1	12.1
	2015	577	16.3	0.0	35.3	19.4	20.3	7.4	1.2	16.3	18.5	14.3
Hong Kong SAR	2011	574	25.2	3.4	19.9	22.6	26.9	2.0	0.2	28.6	30.3	26.7
	2015	598	23.0	1.0	19.2	25.1	30.7	1.0	0.0	24.0	28.1	20.6
Hungary	2011	739	41.4	0.0	25.8	13.8	17.6	0.5	0.9	41.4	42.0	40.8
	2015	706	39.8	0.8	24.3	14.2	20.0	1.1	0.0	40.6	39.0	42.2
Iran, Islamic Rep. of	2011	870	13.4	2.8	34.1	20.7	24.4	3.4	1.2	16.2	17.2	15.3
	2015	863	17.5	0.7	30.3	16.2	27.4	6.5	1.5	18.2	24.3	12.6
Israel	2011	661	37.9	0.5	25.0	15.1	18.6	2.5	0.5	38.4	44.2	32.8
	2015	771	32.8	1.8	22.2	18.8	19.7	3.8	1.0	34.5	35.4	33.8
Italy	2011	565	17.3	1.2	50.2	12.7	14.0	4.3	0.3	18.5	20.0	16.9
	2015	640	16.0	0.0	57.9	10.1	10.5	5.4	0.1	16.0	15.3	16.7
Japan	2011	627	49.5	2.2	10.8	20.2	16.1	1.2	0.0	51.6	54.9	48.2
	2015	682	49.1	5.1	16.4	13.2	15.1	1.0	0.1	54.3	61.6	46.9
Jordan	2011	1079	12.5	2.3	34.6	14.3	34.1	2.0	0.1	14.8	19.2	10.7
	2015	1122	14.2	0.1	17.9	6.2	59.6	1.5	0.5	14.3	15.8	12.6
Kazakhstan	2011	621	37.0	2.7	21.1	6.2	22.5	10.2	0.4	39.6	41.1	38.3
	2015	701	49.2	0.5	23.6	7.0	14.9	4.5	0.3	49.8	50.6	48.9
Korea, Rep. of	2011	743	57.3	0.0	17.4	9.3	14.7	1.4	0.0	57.3	63.1	51.3
	2015	756	42.2	0.1	28.1	12.3	15.8	1.4	0.1	42.3	46.4	38.7
Lebanon	2011	570	10.1	3.5	51.8	13.5	14.1	5.4	1.5	13.7	11.1	16.7
	2015	549	18.5	0.6	43.3	17.0	13.2	6.1	1.4	19.1	20.3	17.6
Lithuania	2011	674	27.1	0.1	30.9	13.8	26.2	1.6	0.3	27.2	32.1	22.9
	2015	619	24.4	0.1	33.4	14.3	25.8	2.0	0.0	24.5	30.6	18.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_10 (S042104): Chemistry / Reasoning Type: CR 1 Point
Label: Balance after HCL-NaOH are mixed

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	7.0	0.1	34.7	18.8	34.1	4.0	1.3	7.1	4.6	9.4
	2015	1392	25.1	0.2	26.3	7.0	34.9	5.2	1.4	25.2	26.9	23.5
Morocco	2011	1313	7.4	0.1	39.7	11.1	27.4	9.4	4.9	7.6	8.2	7.0
	2015	1853	14.9	0.1	27.4	15.3	36.6	5.2	0.6	15.0	17.0	13.4
New Zealand	2011	756	24.0	1.0	35.9	13.7	22.2	2.8	0.4	25.0	26.2	24.0
	2015	1176	26.0	0.1	30.1	13.1	27.4	2.9	0.4	26.0	28.9	22.9
Oman	2011	1368	15.6	1.1	26.5	19.9	32.2	2.8	1.9	16.7	20.5	12.7
	2015	1257	16.3	0.0	37.6	18.8	23.6	3.1	0.5	16.3	21.1	11.9
Qatar	2011	635	8.2	0.4	35.9	24.2	28.2	2.6	0.6	8.6	10.7	6.6
	2015	774	12.2	0.6	28.1	17.7	39.8	1.2	0.4	12.8	14.8	10.9
Russian Federation	2011	707	31.3	0.1	27.6	13.3	21.3	4.8	1.7	31.3	28.4	34.3
	2015	685	43.0	1.0	14.2	10.2	26.1	4.8	0.6	44.0	42.7	45.2
Saudi Arabia	2011	629	9.1	0.7	35.8	24.2	28.4	1.1	0.6	9.8	11.4	8.4
	2015	524	11.3	0.2	33.2	24.8	28.1	1.7	0.6	11.5	14.0	8.9
Singapore	2011	848	37.6	1.0	21.5	11.9	27.1	0.9	0.0	38.6	41.4	35.8
	2015	872	36.9	0.3	26.4	13.1	22.5	0.7	0.1	37.2	38.4	36.0
Slovenia	2011	633	43.2	0.7	20.8	14.2	19.5	1.6	0.0	43.9	45.6	42.3
	2015	608	47.0	0.3	15.8	11.2	24.6	1.1	0.0	47.3	50.6	44.4
South Africa	2011	1713	2.3	0.1	32.6	9.5	50.0	3.4	2.1	2.4	2.3	2.6
	2015	1790	3.9	0.1	51.0	18.8	21.2	3.1	2.0	3.9	4.7	3.2
Sweden	2011	782	22.1	0.2	24.8	18.7	29.5	4.4	0.3	22.3	27.1	18.0
	2015	573	26.3	4.4	20.9	17.7	25.2	4.2	1.2	30.8	40.6	23.0
Thailand	2011	874	11.8	0.1	29.8	14.5	26.6	15.6	1.6	11.8	11.8	11.9
	2015	920	9.2	0.7	32.6	18.5	29.4	8.9	0.7	9.9	11.4	8.1
Turkey	2011	984	19.6	0.4	28.8	18.4	23.3	9.3	0.3	19.9	20.1	19.7
	2015	861	24.0	0.9	31.6	18.4	21.0	3.9	0.3	24.9	26.6	23.2
United Arab Emirates	2011	1999	13.1	0.7	41.8	17.2	24.1	2.5	0.5	13.9	14.9	12.8
	2015	2580	14.2	0.5	41.9	16.5	23.8	2.9	0.2	14.7	16.1	13.4
United States	2011	1509	28.8	0.2	39.8	10.2	19.0	1.4	0.6	29.0	29.8	28.3
	2015	1463	26.2	0.7	40.0	12.5	17.3	1.6	1.5	27.0	25.7	28.2

International Avg (n=33)	2011	28516	22.4	0.9	31.5	15.6	24.3	4.4	0.9	23.3	25.1	21.7
	2015	31115	24.4	0.8	30.6	15.0	25.2	3.4	0.7	25.2	27.5	23.0

Ontario, Canada	2011	681	25.5	1.5	35.8	8.3	21.7	6.0	1.3	27.0	28.2	26.0
	2015	645	19.1	0.6	40.0	10.8	23.0	5.0	1.6	19.7	23.8	15.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_10 (S042104): Chemistry / Reasoning Type: CR 1 Point
Label: Balance after HCL-NaOH are mixed

COUNTRY	Year	N	10 %	11 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	27.2	2.8	35.7	9.6	18.1	6.0	0.7	30.0	32.1	27.6
	2015	551	33.8	5.2	24.9	14.5	17.5	4.2	0.0	39.0	37.0	41.1
Norway (8)	2011	552	14.8	0.4	28.3	21.9	30.6	3.3	0.7	15.2	14.7	15.8
	2015	695	20.7	0.4	27.3	20.6	25.8	4.4	0.8	21.1	27.0	15.5
Abu Dhabi, UAE	2011	623	12.3	1.0	40.3	17.5	25.7	2.8	0.4	13.3	13.5	13.1
	2015	698	12.9	0.4	38.0	19.9	25.4	3.0	0.3	13.4	18.9	8.4
Dubai, UAE	2011	784	14.6	0.7	45.0	15.1	21.4	2.5	0.8	15.2	15.5	15.0
	2015	875	15.2	0.5	45.6	11.6	23.3	3.5	0.2	15.8	15.2	16.5
Florida, US	2011	239	32.9	0.7	32.1	9.4	22.0	2.4	0.4	33.6	39.3	28.2
	2015	302	23.5	0.2	41.2	13.9	16.9	2.4	2.0	23.7	24.9	22.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_11 (S042064): Chemistry / Applying Type: CR 1 Point
Label: Why oil floats on top of water

COUNTRY	Year	N	10 %	19 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	24.1	0.2	2.6	18.4	45.4	9.1	0.3	24.3	19.0	29.7
	2015	1474	22.9	0.0	2.5	16.4	49.1	8.2	0.9	22.9	22.0	23.9
Bahrain	2011	654	20.3	2.3	2.1	2.6	58.2	13.9	0.7	22.6	21.6	23.6
	2015	693	27.1	0.0	3.1	4.2	53.3	11.9	0.4	27.1	31.3	23.1
Botswana	2011	768	16.0	0.1	2.1	4.9	65.7	8.4	2.8	16.2	16.0	16.4
	2015	858	19.4	0.0	2.8	5.8	62.1	6.7	3.2	19.4	19.1	19.8
Chile	2011	830	5.2	0.0	0.5	7.7	65.8	18.3	2.4	5.2	4.8	5.8
	2015	679	10.3	0.0	2.3	6.6	57.3	22.8	0.8	10.3	9.7	10.9
Chinese Taipei	2011	716	54.6	0.0	1.4	9.1	29.5	5.3	0.0	54.6	54.3	54.9
	2015	820	52.4	0.0	1.4	6.9	33.1	6.2	0.0	52.4	52.5	52.3
England	2011	545	21.3	0.0	2.1	11.0	54.9	10.4	0.4	21.3	18.9	23.5
	2015	678	23.7	0.4	3.4	6.0	56.0	9.9	0.6	24.2	24.9	23.4
Georgia	2011	655	15.4	0.4	1.5	9.2	40.4	30.5	2.6	15.8	14.8	16.8
	2015	576	27.9	0.1	3.0	10.7	35.6	21.3	1.4	27.9	29.8	26.2
Hong Kong SAR	2011	574	39.4	0.0	2.4	8.3	43.1	6.5	0.3	39.4	36.5	42.3
	2015	598	43.7	0.0	1.5	6.8	41.2	6.8	0.0	43.7	40.1	46.7
Hungary	2011	739	39.7	0.5	1.9	6.5	44.1	6.4	0.9	40.2	36.6	43.1
	2015	706	41.1	0.0	1.2	5.7	45.1	6.9	0.0	41.1	37.6	45.0
Iran, Islamic Rep. of	2011	870	7.8	0.4	13.0	35.1	32.5	9.7	1.4	8.2	7.1	9.2
	2015	863	17.6	0.0	4.6	35.2	32.3	8.4	2.0	17.6	17.6	17.5
Israel	2011	661	30.6	0.0	5.1	19.1	34.2	10.3	0.8	30.6	31.9	29.3
	2015	771	38.0	0.0	3.4	13.9	32.4	10.9	1.3	38.0	39.8	36.5
Italy	2011	565	9.7	4.8	4.2	34.0	35.8	10.9	0.5	14.5	12.1	16.9
	2015	639	7.4	5.7	2.8	28.7	42.5	12.8	0.2	13.1	9.2	17.3
Japan	2011	627	15.2	0.0	1.7	52.3	25.4	5.4	0.0	15.2	11.9	18.6
	2015	682	22.8	0.0	1.7	50.0	22.2	3.2	0.1	22.8	19.7	25.9
Jordan	2011	1079	49.9	0.4	0.9	3.8	36.9	7.7	0.5	50.3	52.9	48.0
	2015	1122	48.8	0.0	2.2	0.4	40.3	7.6	0.7	48.8	51.7	45.5
Kazakhstan	2011	622	48.0	5.0	3.5	5.8	25.2	12.0	0.5	52.9	56.1	50.0
	2015	701	49.8	0.6	4.0	5.4	31.1	8.9	0.3	50.3	50.6	50.0
Korea, Rep. of	2011	743	59.7	0.0	2.4	15.5	20.6	1.7	0.0	59.7	59.9	59.6
	2015	756	57.6	0.3	0.6	11.8	26.8	2.8	0.1	57.8	61.2	54.9
Lebanon	2011	570	26.0	0.8	4.6	9.1	42.7	15.1	1.7	26.9	28.1	25.3
	2015	549	32.4	0.0	3.7	11.7	33.2	17.3	1.7	32.4	34.3	30.2
Lithuania	2011	674	15.2	0.1	3.9	32.2	39.2	9.0	0.3	15.4	14.6	16.0
	2015	619	16.4	0.4	2.3	30.4	40.3	10.1	0.1	16.8	17.3	16.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_11 (S042064): Chemistry / Applying Type: CR 1 Point
Label: Why oil floats on top of water

COUNTRY	Year	N	10 %	19 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	32.4	0.3	1.7	5.7	45.8	12.6	1.5	32.7	33.6	31.9
	2015	1392	50.3	0.0	1.0	1.6	35.4	9.8	1.8	50.3	52.2	48.4
Morocco	2011	1322	3.6	6.6	6.6	21.6	39.3	16.7	5.7	10.2	9.2	11.2
	2015	1858	14.7	2.9	3.7	28.7	36.2	12.9	1.1	17.5	19.0	16.4
New Zealand	2011	756	20.4	0.1	3.0	24.6	44.7	6.9	0.4	20.5	18.7	22.1
	2015	1176	28.4	0.0	1.2	17.2	41.1	11.7	0.4	28.4	28.6	28.2
Oman	2011	1368	39.4	0.1	2.0	3.4	41.7	11.3	2.1	39.5	46.0	32.7
	2015	1257	45.6	0.3	2.7	5.7	37.9	7.2	0.7	45.9	55.2	37.6
Qatar	2011	635	23.7	0.0	1.7	8.0	50.7	15.2	0.8	23.7	20.8	26.4
	2015	774	35.2	0.0	2.0	6.8	45.0	10.7	0.4	35.2	33.9	36.4
Russian Federation	2011	707	45.2	0.0	3.7	9.5	28.9	10.5	2.2	45.2	42.5	47.9
	2015	685	39.7	0.0	8.0	6.3	33.6	11.6	0.8	39.7	37.4	41.9
Saudi Arabia	2011	629	13.7	0.0	0.8	7.0	68.4	9.6	0.6	13.7	9.4	17.6
	2015	524	18.1	0.3	1.2	2.2	64.2	13.2	0.9	18.4	19.8	16.8
Singapore	2011	848	59.0	0.0	1.7	6.8	30.0	2.5	0.0	59.0	59.4	58.6
	2015	872	63.7	0.0	0.8	4.5	28.8	2.2	0.1	63.7	64.2	63.2
Slovenia	2011	633	46.9	0.4	6.7	10.8	32.8	2.4	0.0	47.3	40.6	53.5
	2015	608	33.9	14.3	4.7	6.7	37.9	2.6	0.0	48.2	48.4	48.0
South Africa	2011	1713	4.8	4.1	1.6	3.2	72.4	11.2	2.7	9.0	8.9	9.0
	2015	1790	6.7	0.1	1.6	3.1	78.2	8.1	2.2	6.9	6.6	7.2
Sweden	2011	782	13.9	0.0	0.5	17.7	53.9	13.6	0.4	13.9	13.0	14.7
	2015	574	23.7	0.0	1.1	12.9	47.9	12.7	1.6	23.7	22.2	25.5
Thailand	2011	874	23.5	0.0	2.4	7.6	47.6	17.0	1.9	23.5	21.1	26.5
	2015	920	26.7	0.0	0.8	6.7	52.4	12.7	0.8	26.7	28.9	23.8
Turkey	2011	984	37.3	0.1	2.1	2.7	43.7	13.5	0.6	37.5	38.8	36.1
	2015	861	42.5	0.1	1.6	4.7	39.3	11.1	0.7	42.6	42.9	42.3
United Arab Emirates	2011	1999	37.4	0.1	2.4	10.3	40.0	9.1	0.6	37.6	38.9	36.3
	2015	2582	40.0	0.0	2.8	10.2	37.2	9.5	0.4	40.0	44.9	35.3
United States	2011	1509	47.9	0.1	1.5	6.8	39.9	3.1	0.8	48.0	46.2	49.8
	2015	1463	45.2	0.2	0.9	7.2	41.0	3.6	1.8	45.4	45.2	45.6

International Avg (n=33)	2011	28532	28.7	0.8	2.9	13.0	43.0	10.5	1.1	29.5	28.6	30.4
	2015	31120	32.5	0.8	2.4	11.6	42.1	9.8	0.8	33.3	33.9	32.8

Ontario, Canada	2011	681	32.1	0.2	3.5	10.1	44.3	8.2	1.6	32.4	31.1	33.2
	2015	645	37.6	0.9	3.9	6.6	41.4	7.8	1.8	38.5	37.0	39.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_11 (S042064): Chemistry / Applying Type: CR 1 Point
Label: Why oil floats on top of water

COUNTRY	Year	N	10 %	19 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	21.5	0.5	5.5	33.5	30.0	8.3	0.7	22.0	20.4	23.8
	2015	551	20.8	0.3	5.3	34.5	33.3	5.2	0.5	21.1	15.6	26.9
Norway (8)	2011	552	21.7	0.0	2.9	29.7	36.4	8.3	1.0	21.7	19.6	24.2
	2015	695	19.6	0.1	2.9	28.7	36.3	11.0	1.4	19.7	18.1	21.2
Abu Dhabi, UAE	2011	623	35.4	0.2	2.7	8.5	44.2	8.5	0.4	35.6	34.5	36.6
	2015	698	36.7	0.0	2.7	7.9	41.2	10.9	0.6	36.7	46.2	28.1
Dubai, UAE	2011	784	33.1	0.0	2.7	16.3	37.0	10.1	0.8	33.1	37.8	28.9
	2015	877	41.6	0.0	3.8	12.0	35.6	6.8	0.3	41.6	44.9	38.0
Florida, US	2011	239	52.5	0.0	0.0	3.3	39.8	3.6	0.8	52.5	50.7	54.1
	2015	302	42.0	0.0	0.9	4.2	44.3	6.5	2.0	42.0	42.6	41.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_12 (S042273): Physics / Applying Type: CR 1 Point
Label: Seeing lightning & hearing thunder

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	42.7	0.0	46.8	10.1	0.4	42.7	37.8	47.7
	2015	1474	49.4	0.3	40.0	9.0	1.3	49.4	42.7	56.5
Bahrain	2011	654	37.2	1.4	40.6	19.5	1.3	37.2	37.7	36.8
	2015	693	34.8	0.9	48.2	15.7	0.5	34.8	33.2	36.2
Botswana	2011	768	27.5	0.7	55.6	11.2	5.0	27.5	27.2	27.8
	2015	858	17.0	1.6	65.5	10.7	5.2	17.0	12.9	21.1
Chile	2011	830	17.9	1.2	53.7	24.7	2.6	17.9	13.5	22.8
	2015	679	24.3	0.5	46.4	27.9	1.0	24.3	19.6	29.2
Chinese Taipei	2011	716	75.3	1.6	17.3	5.8	0.0	75.3	75.9	74.7
	2015	820	73.1	2.9	18.4	5.5	0.0	73.1	69.9	76.4
England	2011	545	67.7	0.3	22.8	8.7	0.5	67.7	64.5	70.4
	2015	678	63.0	0.6	25.8	9.5	1.1	63.0	61.0	65.3
Georgia	2011	655	19.3	1.1	39.4	37.0	3.1	19.3	17.1	21.4
	2015	576	27.3	1.8	43.4	26.1	1.4	27.3	27.3	27.4
Hong Kong SAR	2011	574	57.7	0.2	33.6	8.1	0.3	57.7	51.5	64.2
	2015	598	59.9	0.2	32.7	7.1	0.2	59.9	49.9	68.2
Hungary	2011	739	44.5	0.2	38.9	15.6	0.9	44.5	35.3	52.1
	2015	706	51.5	0.4	32.7	15.5	0.0	51.5	39.5	64.3
Iran, Islamic Rep. of	2011	870	28.5	0.3	50.5	19.1	1.5	28.5	20.2	35.8
	2015	863	22.6	0.1	58.6	16.6	2.1	22.6	16.8	27.9
Israel	2011	661	45.3	0.2	35.3	18.1	1.1	45.3	43.7	46.7
	2015	771	44.8	0.2	31.8	21.2	2.0	44.8	35.8	52.4
Italy	2011	565	41.1	0.9	41.5	15.9	0.5	41.1	34.3	47.9
	2015	640	39.4	0.8	38.3	21.0	0.5	39.4	34.5	44.7
Japan	2011	627	66.2	1.3	24.5	8.0	0.0	66.2	57.8	75.1
	2015	682	76.8	1.2	18.2	3.7	0.1	76.8	75.7	77.9
Jordan	2011	1079	33.6	0.8	48.7	16.2	0.7	33.6	33.3	33.9
	2015	1122	28.5	0.0	53.2	16.7	1.6	28.5	30.0	26.8
Kazakhstan	2011	621	32.9	3.7	38.4	24.2	0.7	32.9	36.9	29.3
	2015	701	33.4	1.7	51.4	13.1	0.4	33.4	31.1	36.0
Korea, Rep. of	2011	743	63.7	0.4	27.8	8.1	0.0	63.7	57.9	69.8
	2015	756	61.5	0.2	32.5	5.6	0.1	61.5	58.7	63.9
Lebanon	2011	570	26.1	2.7	33.3	35.6	2.4	26.1	21.7	31.3
	2015	549	29.0	0.1	27.4	41.3	2.1	29.0	28.5	29.6
Lithuania	2011	674	53.4	0.1	37.2	9.0	0.3	53.4	53.0	53.7
	2015	619	40.0	0.0	50.1	9.6	0.3	40.0	38.0	42.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_12 (S042273): Physics / Applying Type: CR 1 Point
Label: Seeing lightning & hearing thunder

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	18.2	2.0	52.4	25.5	1.9	18.2	14.5	21.6
	2015	1392	25.5	0.2	50.4	21.1	2.7	25.5	20.7	30.4
Morocco	2011	1323	15.0	0.5	44.4	33.4	6.7	15.0	13.0	16.8
	2015	1859	21.0	0.8	41.1	35.8	1.4	21.0	18.1	23.3
New Zealand	2011	756	52.3	0.7	37.2	9.2	0.5	52.3	42.1	61.5
	2015	1176	52.4	0.2	34.3	12.6	0.5	52.4	46.4	58.9
Oman	2011	1368	27.9	0.3	47.9	21.5	2.4	27.9	31.4	24.3
	2015	1257	33.7	6.1	45.3	14.2	0.7	33.7	35.7	32.0
Qatar	2011	635	44.4	0.9	36.4	17.3	1.0	44.4	43.1	45.6
	2015	774	45.1	1.5	38.7	13.9	0.8	45.1	44.1	46.2
Russian Federation	2011	707	45.7	0.3	32.2	19.2	2.6	45.7	36.6	54.7
	2015	685	48.4	0.8	32.3	17.7	0.8	48.4	44.6	51.9
Saudi Arabia	2011	629	32.3	0.1	52.2	14.8	0.6	32.3	33.0	31.7
	2015	524	32.2	1.1	47.9	18.0	0.9	32.2	35.2	29.0
Singapore	2011	848	84.9	0.1	12.9	2.0	0.1	84.9	85.6	84.2
	2015	872	78.7	0.0	18.7	2.5	0.1	78.7	76.5	80.7
Slovenia	2011	633	64.5	0.4	23.2	12.0	0.0	64.5	60.2	68.4
	2015	608	71.2	0.2	19.5	9.1	0.0	71.2	68.9	73.2
South Africa	2011	1713	8.3	0.7	62.3	25.6	3.1	8.3	6.7	9.8
	2015	1790	9.3	0.3	71.7	15.9	2.8	9.3	5.8	12.8
Sweden	2011	782	49.5	0.0	40.0	10.1	0.4	49.5	48.8	50.2
	2015	574	70.3	1.5	18.6	7.0	2.6	70.3	68.7	72.2
Thailand	2011	874	35.5	0.6	37.4	24.5	2.0	35.5	31.5	40.3
	2015	920	30.5	0.0	47.8	20.6	1.0	30.5	28.5	33.2
Turkey	2011	984	46.9	0.4	35.2	16.9	0.6	46.9	48.1	45.7
	2015	861	58.1	0.6	29.9	10.3	1.0	58.1	57.2	58.9
United Arab Emirates	2011	1999	36.9	0.1	48.1	14.0	0.9	36.9	36.4	37.4
	2015	2582	42.5	0.8	42.2	14.0	0.5	42.5	42.6	42.4
United States	2011	1509	43.7	0.1	50.9	4.0	1.2	43.7	38.2	49.5
	2015	1463	51.0	0.7	40.7	5.3	2.2	51.0	46.4	55.5

International Avg (n=33)	2011	28532	42.0	0.7	39.4	16.5	1.4	42.0	39.0	45.0
	2015	31122	43.8	0.9	39.2	15.0	1.1	43.8	40.7	46.9

Ontario, Canada	2011	681	37.6	2.2	42.7	15.5	2.1	37.6	29.6	44.0
	2015	645	47.4	0.5	37.5	11.5	3.0	47.4	41.3	53.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_12 (S042273): Physics / Applying Type: CR 1 Point
Label: Seeing lightning & hearing thunder

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	874	45.8	1.7	40.2	11.4	0.9	45.8	42.6	49.3
	2015	551	42.1	2.4	47.6	7.2	0.8	42.1	31.6	52.9
Norway (8)	2011	552	46.2	2.1	40.1	10.7	1.0	46.2	41.9	51.4
	2015	695	36.5	0.8	51.1	10.0	1.7	36.5	33.6	39.1
Abu Dhabi, UAE	2011	623	28.1	0.0	56.6	14.4	0.9	28.1	18.8	36.2
	2015	698	31.9	1.1	51.2	15.1	0.8	31.9	33.2	30.7
Dubai, UAE	2011	784	49.3	0.3	34.7	14.6	1.1	49.3	51.4	47.4
	2015	877	61.6	0.9	27.9	9.3	0.4	61.6	58.7	64.8
Florida, US	2011	239	65.2	0.0	29.0	5.1	0.8	65.2	63.0	67.2
	2015	302	43.2	0.0	45.1	9.7	2.0	43.2	40.8	45.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_13 (S042301): Earth Science / Knowing Type: CR 1 Point
Label: What causes an earthquake

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	62.9	1.8	26.4	8.5	0.4	64.7	59.2	70.3
	2015	1474	72.7	1.3	19.6	5.1	1.3	74.0	74.3	73.7
Bahrain	2011	654	40.5	9.3	34.7	14.0	1.4	49.9	54.8	45.0
	2015	693	23.3	5.1	55.2	15.9	0.5	28.4	29.2	27.7
Botswana	2011	768	3.3	2.0	72.3	16.3	6.1	5.3	6.4	4.2
	2015	858	9.6	5.8	66.3	11.9	6.6	15.3	16.5	14.0
Chile	2011	830	66.4	0.6	23.2	7.1	2.6	67.0	66.3	67.8
	2015	679	61.0	1.2	25.3	10.8	1.7	62.2	61.5	62.9
Chinese Taipei	2011	716	87.8	0.5	9.5	2.2	0.0	88.4	91.4	85.6
	2015	820	93.1	0.4	3.6	2.9	0.0	93.5	93.4	93.6
England	2011	545	74.1	0.8	20.5	4.0	0.6	74.9	77.0	73.0
	2015	678	75.7	0.8	15.4	7.0	1.1	76.5	77.9	74.9
Georgia	2011	653	50.5	4.5	22.9	19.2	3.0	54.9	55.6	54.3
	2015	576	9.3	3.9	67.9	17.1	1.8	13.2	13.3	13.1
Hong Kong SAR	2011	574	68.6	3.1	21.6	6.4	0.3	71.6	71.4	71.9
	2015	598	64.4	0.6	29.0	5.8	0.2	65.0	60.1	69.1
Hungary	2011	739	50.3	4.7	24.7	19.4	0.9	55.0	47.7	61.0
	2015	706	39.7	6.7	31.7	21.9	0.0	46.4	42.0	51.2
Iran, Islamic Rep. of	2011	869	29.1	11.1	48.4	9.1	2.3	40.2	39.8	40.5
	2015	863	8.0	9.3	64.0	16.0	2.7	17.3	16.6	17.9
Israel	2011	661	53.7	6.1	26.9	11.9	1.3	59.8	58.8	60.8
	2015	771	47.0	5.7	27.8	17.0	2.5	52.7	53.5	52.1
Italy	2011	565	39.9	1.7	50.2	7.6	0.5	41.6	39.4	43.7
	2015	640	46.5	2.4	42.4	7.9	0.8	48.9	47.9	49.9
Japan	2011	627	78.9	3.4	12.8	4.7	0.1	82.3	79.5	85.3
	2015	682	56.6	1.7	37.8	3.6	0.1	58.4	61.3	55.5
Jordan	2011	1079	12.5	9.2	66.0	11.6	0.7	21.8	29.7	14.5
	2015	1122	18.1	3.9	62.6	13.8	1.6	22.1	23.7	20.2
Kazakhstan	2011	622	39.6	14.1	32.9	12.7	0.8	53.7	56.1	51.5
	2015	701	50.1	13.5	28.0	7.8	0.7	63.6	61.6	65.8
Korea, Rep. of	2011	743	44.8	5.0	44.0	6.3	0.0	49.7	47.0	52.6
	2015	756	24.6	3.3	64.6	7.4	0.1	27.9	25.3	30.2
Lebanon	2011	570	11.3	9.0	37.0	39.9	2.8	20.3	19.4	21.4
	2015	549	8.8	5.8	35.0	47.7	2.7	14.6	14.3	15.0
Lithuania	2011	674	68.7	3.9	20.3	6.8	0.3	72.7	74.7	70.9
	2015	619	64.9	4.6	22.3	8.0	0.3	69.5	69.8	69.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_13 (S042301): Earth Science / Knowing Type: CR 1 Point
Label: What causes an earthquake

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	4.5	7.6	63.7	22.4	1.9	12.1	9.9	14.2
	2015	1392	12.3	2.7	63.3	18.3	3.4	15.1	15.2	14.9
Morocco	2011	1333	17.1	13.2	38.8	24.0	6.9	30.3	29.0	31.5
	2015	1850	24.2	12.3	39.5	22.6	1.6	36.4	38.0	35.2
New Zealand	2011	756	76.6	1.3	17.0	4.5	0.5	77.9	77.8	78.1
	2015	1176	73.0	0.9	18.4	7.2	0.5	74.0	74.7	73.2
Oman	2011	1368	24.8	3.9	53.2	15.5	2.7	28.7	35.3	21.8
	2015	1255	33.7	6.1	50.1	9.4	0.7	39.8	43.6	36.4
Qatar	2011	635	20.3	8.5	50.5	19.6	1.1	28.8	30.2	27.4
	2015	774	26.1	7.6	48.9	16.4	1.0	33.7	36.6	31.0
Russian Federation	2011	707	65.9	2.9	19.3	9.3	2.6	68.8	65.4	72.2
	2015	685	67.6	3.9	16.4	11.3	0.8	71.5	71.9	71.1
Saudi Arabia	2011	629	7.9	16.5	61.9	13.1	0.6	24.4	26.7	22.2
	2015	524	17.0	15.4	47.8	18.9	0.9	32.4	36.6	27.9
Singapore	2011	848	45.1	7.3	41.5	6.0	0.1	52.4	51.1	53.6
	2015	872	52.4	4.1	37.5	5.9	0.1	56.5	53.3	59.4
Slovenia	2011	633	83.8	0.1	10.3	5.8	0.0	83.9	83.0	84.8
	2015	608	77.2	0.6	14.1	8.2	0.0	77.8	78.4	77.2
South Africa	2011	1713	8.3	2.4	61.9	23.9	3.4	10.8	9.9	11.6
	2015	1790	13.6	2.3	64.9	16.0	3.1	16.0	16.9	15.1
Sweden	2011	782	68.9	2.8	21.2	6.6	0.5	71.7	70.4	72.8
	2015	574	68.3	1.4	17.6	9.7	3.1	69.7	70.5	69.4
Thailand	2011	874	41.1	6.7	34.0	15.7	2.4	47.9	47.7	48.1
	2015	920	39.9	4.5	44.7	9.9	1.0	44.3	47.7	40.1
Turkey	2011	984	24.7	2.7	55.4	16.5	0.7	27.4	24.0	30.9
	2015	861	35.1	5.7	43.9	14.3	1.0	40.8	41.0	40.6
United Arab Emirates	2011	1999	37.2	4.6	47.4	9.8	1.0	41.8	44.8	38.8
	2015	2581	45.7	4.7	38.7	10.1	0.7	50.5	56.8	44.5
United States	2011	1509	69.3	1.6	24.7	3.1	1.4	70.9	67.5	74.5
	2015	1463	69.9	0.6	24.0	3.1	2.4	70.5	67.6	73.3

International Avg (n=33)	2011	28540	44.8	5.2	36.2	12.2	1.5	50.0	49.9	50.2
	2015	31110	43.3	4.5	38.4	12.4	1.4	47.8	48.2	47.4

Ontario, Canada	2011	681	63.3	2.7	21.6	9.9	2.5	66.0	63.3	68.1
	2015	645	56.6	1.0	31.2	7.8	3.3	57.7	60.2	55.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_13 (S042301): Earth Science / Knowing Type: CR 1 Point
Label: What causes an earthquake

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	874	78.8	1.1	16.4	2.8	0.9	79.9	80.2	79.6
	2015	551	81.2	0.9	13.4	3.8	0.8	82.0	76.3	87.9
Norway (8)	2011	552	76.4	2.6	14.8	5.0	1.1	79.1	79.9	78.1
	2015	695	65.2	2.0	22.8	8.3	1.8	67.2	64.6	69.6
Abu Dhabi, UAE	2011	623	35.0	4.4	50.1	9.5	0.9	39.4	39.5	39.4
	2015	697	39.9	6.5	41.8	11.1	0.8	46.3	55.4	38.2
Dubai, UAE	2011	784	46.1	2.7	39.3	10.8	1.1	48.8	51.2	46.5
	2015	877	54.9	3.4	32.7	8.4	0.5	58.3	60.9	55.5
Florida, US	2011	239	78.4	0.3	20.0	0.4	0.8	78.8	78.3	79.3
	2015	302	58.9	0.0	29.2	9.8	2.0	58.9	61.1	56.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_14 (S042312): Earth Science / Knowing Type: MC Key: C
Label: What rotation of Earth causes

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	55.5	27.7	5.7	55.5	8.4	2.3	0.5	50.6	60.6
	2015	1474	58.5	25.3	4.6	58.5	8.6	1.7	1.3	56.1	61.1
Bahrain	2011	654	65.3	21.9	6.3	65.3	4.1	1.0	1.4	68.1	62.6
	2015	693	67.7	20.1	7.6	67.7	3.1	1.0	0.5	70.9	64.7
Botswana	2011	768	50.5	14.2	21.9	50.5	5.5	0.7	7.1	46.6	54.6
	2015	859	47.5	14.1	24.3	47.5	5.2	1.2	7.8	43.1	52.0
Chile	2011	830	69.9	19.2	3.1	69.9	3.1	1.7	3.0	70.8	69.0
	2015	679	70.8	18.4	3.5	70.8	3.1	2.3	1.8	72.4	69.1
Chinese Taipei	2011	716	63.5	22.0	7.0	63.5	7.2	0.3	0.0	65.9	61.4
	2015	820	62.8	23.1	5.0	62.8	8.3	0.8	0.0	65.9	59.7
England	2011	545	70.3	23.1	2.5	70.3	2.4	1.1	0.8	69.3	71.1
	2015	678	67.8	22.7	2.6	67.8	4.4	1.3	1.2	65.5	70.4
Georgia	2011	653	72.2	19.0	1.7	72.2	3.2	1.0	3.0	69.6	74.6
	2015	576	71.9	17.1	2.5	71.9	4.9	1.8	1.8	75.3	68.7
Hong Kong SAR	2011	573	62.7	23.9	5.5	62.7	6.6	0.8	0.5	64.1	61.2
	2015	598	61.7	25.3	4.6	61.7	7.7	0.4	0.3	57.4	65.2
Hungary	2011	739	75.2	17.1	2.8	75.2	2.5	1.6	0.9	71.3	78.4
	2015	706	82.1	14.4	0.9	82.1	1.3	1.3	0.0	80.9	83.4
Iran, Islamic Rep. of	2011	869	59.9	25.9	3.3	59.9	7.8	0.7	2.3	58.1	61.6
	2015	863	59.8	25.7	4.9	59.8	6.1	0.7	2.9	62.9	57.1
Israel	2011	661	67.0	22.3	6.0	67.0	1.7	1.3	1.6	67.1	66.9
	2015	771	63.3	22.8	7.2	63.3	3.6	0.6	2.5	63.7	63.0
Italy	2011	565	71.4	19.7	4.0	71.4	2.2	2.1	0.8	71.1	71.6
	2015	640	71.8	19.6	3.5	71.8	3.5	0.8	0.8	73.5	69.9
Japan	2011	627	66.2	19.9	6.7	66.2	5.3	1.6	0.3	64.3	68.1
	2015	682	77.0	11.4	5.7	77.0	4.1	1.7	0.1	78.6	75.4
Jordan	2011	1079	58.3	21.4	10.9	58.3	8.0	0.7	0.8	59.7	57.0
	2015	1122	56.2	24.5	11.6	56.2	5.1	0.9	1.8	57.2	55.1
Kazakhstan	2011	621	68.9	23.4	2.3	68.9	3.1	1.4	0.9	69.5	68.4
	2015	701	73.3	19.6	2.6	73.3	2.5	1.4	0.7	74.1	72.4
Korea, Rep. of	2011	743	68.6	22.1	4.2	68.6	5.1	0.0	0.0	67.4	69.9
	2015	756	76.0	17.9	1.3	76.0	4.4	0.3	0.1	76.9	75.2
Lebanon	2011	562	53.9	21.9	11.6	53.9	5.8	3.8	3.0	54.2	53.6
	2015	545	57.9	18.2	13.2	57.9	3.1	4.9	2.7	56.5	59.6
Lithuania	2011	674	71.4	18.3	1.0	71.4	3.0	6.0	0.3	71.7	71.1
	2015	619	63.7	27.7	1.3	63.7	4.1	2.9	0.3	61.4	65.9

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_14 (S042312): Earth Science / Knowing Type: MC Key: C
Label: What rotation of Earth causes

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	68.4	14.0	10.5	68.4	4.8	0.2	2.1	72.2	64.9
	2015	1392	62.4	24.3	4.7	62.4	4.5	0.7	3.4	63.1	61.6
Morocco	2011	1324	55.0	12.9	19.3	55.0	4.5	1.2	7.1	52.0	57.7
	2015	1856	61.7	11.3	15.7	61.7	6.4	3.2	1.6	62.2	61.4
New Zealand	2011	756	56.7	28.5	4.2	56.7	8.4	1.8	0.5	52.9	60.0
	2015	1176	53.4	30.3	3.4	53.4	9.2	3.1	0.5	54.2	52.5
Oman	2011	1368	51.0	25.3	11.9	51.0	7.9	1.1	2.8	51.3	50.6
	2015	1248	56.5	23.3	10.9	56.5	8.0	0.6	0.7	54.9	57.9
Qatar	2011	635	52.0	25.3	13.5	52.0	7.2	1.0	1.1	48.1	55.7
	2015	774	64.2	24.4	6.7	64.2	2.6	1.2	1.0	67.5	60.9
Russian Federation	2011	707	80.9	10.5	2.2	80.9	3.5	0.3	2.6	80.4	81.3
	2015	685	79.4	14.1	0.7	79.4	2.7	2.2	0.8	80.8	78.1
Saudi Arabia	2011	628	58.0	33.4	4.2	58.0	3.8	0.0	0.6	54.0	61.7
	2015	524	62.1	23.7	6.4	62.1	6.7	0.2	0.9	64.0	60.1
Singapore	2011	848	85.6	6.5	5.0	85.6	2.6	0.1	0.1	86.2	85.0
	2015	872	72.3	14.0	6.7	72.3	5.9	0.6	0.4	73.3	71.4
Slovenia	2011	633	75.8	17.3	1.0	75.8	5.0	0.9	0.0	74.5	77.0
	2015	608	77.0	17.0	0.3	77.0	2.9	2.7	0.0	75.6	78.3
South Africa	2011	1713	53.0	18.8	15.4	53.0	7.4	1.7	3.7	51.1	54.8
	2015	1790	63.5	14.8	12.2	63.5	5.1	1.2	3.3	61.6	65.3
Sweden	2011	783	65.5	25.0	4.1	65.5	2.9	2.0	0.5	68.8	62.4
	2015	574	65.6	22.9	1.8	65.6	2.8	3.6	3.3	66.0	65.2
Thailand	2011	874	64.9	13.7	11.0	64.9	7.3	0.4	2.6	66.1	63.5
	2015	920	66.2	13.4	12.5	66.2	6.1	0.7	1.2	68.8	63.0
Turkey	2011	984	72.0	21.3	3.4	72.0	2.1	0.4	0.7	72.1	71.9
	2015	861	71.2	22.2	2.9	71.2	2.3	0.3	1.1	72.2	70.3
United Arab Emirates	2011	1999	59.9	18.7	11.7	59.9	7.6	1.0	1.1	61.2	58.6
	2015	2582	61.8	18.3	12.7	61.8	5.1	1.3	0.9	64.1	59.5
United States	2011	1509	51.8	38.1	3.1	51.8	4.4	0.8	1.8	51.0	52.7
	2015	1463	52.8	37.3	2.2	52.8	4.3	0.7	2.6	50.8	54.7

International Avg (n=33)	2011	28521	64.3	21.0	6.9	64.3	5.0	1.2	1.6	63.7	64.8
	2015	31107	65.5	20.6	6.3	65.5	4.8	1.5	1.5	65.8	65.1

Ontario, Canada	2011	681	62.8	21.3	5.4	62.8	6.2	1.4	2.9	66.9	59.0
	2015	645	64.7	19.3	3.9	64.7	7.3	0.9	3.9	59.7	69.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_14 (S042312): Earth Science / Knowing Type: MC Key: C
Label: What rotation of Earth causes

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	61.5	27.8	2.9	61.5	5.1	1.9	0.9	59.1	64.1
	2015	549	62.5	29.1	2.4	62.5	3.5	1.8	0.8	60.6	64.4
Norway (8)	2011	552	62.9	22.6	3.6	62.9	4.6	4.9	1.4	62.2	63.8
	2015	695	63.2	25.1	3.7	63.2	3.3	2.9	1.9	61.1	65.1
Abu Dhabi, UAE	2011	623	58.2	19.1	12.4	58.2	9.0	0.5	0.9	57.6	58.7
	2015	698	56.7	19.7	16.2	56.7	5.1	1.5	0.8	61.8	52.0
Dubai, UAE	2011	784	62.7	20.4	7.6	62.7	6.5	1.8	1.1	64.2	61.3
	2015	877	69.7	17.2	6.0	69.7	4.9	1.0	1.1	69.4	70.1
Florida, US	2011	239	42.8	51.2	2.0	42.8	2.9	0.3	0.8	39.9	45.5
	2015	302	46.0	42.0	3.9	46.0	4.1	1.6	2.4	38.1	53.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_15 (S042217): Earth Science / Knowing Type: MC Key: B
Label: Shadow of a tree on a sunny day

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	53.1	2.5	53.1	22.7	19.0	2.2	0.5	41.6	65.0
	2015	1474	53.8	3.2	53.8	19.6	20.9	1.1	1.4	47.8	60.0
Bahrain	2011	654	31.3	8.7	31.3	24.7	32.5	1.4	1.4	29.6	33.0
	2015	693	33.3	10.0	33.3	24.8	29.5	1.7	0.6	29.9	36.4
Botswana	2011	768	30.4	6.5	30.4	32.1	21.6	2.2	7.2	25.6	35.6
	2015	858	24.7	7.1	24.7	35.0	22.1	2.7	8.4	18.8	30.7
Chile	2011	830	26.5	4.6	26.5	32.3	30.0	3.2	3.4	23.8	29.5
	2015	679	32.4	5.8	32.4	29.7	27.8	2.4	1.8	27.5	37.5
Chinese Taipei	2011	716	81.0	0.4	81.0	12.7	5.8	0.1	0.0	80.5	81.3
	2015	820	85.4	1.3	85.4	9.0	4.1	0.3	0.0	85.7	85.1
England	2011	545	56.5	1.8	56.5	18.9	20.7	1.3	0.8	52.0	60.4
	2015	678	47.4	2.1	47.4	22.9	25.6	0.6	1.4	46.2	48.8
Georgia	2011	653	39.8	4.4	39.8	29.6	19.9	3.3	3.0	36.3	43.0
	2015	576	42.3	4.2	42.3	26.1	21.5	4.1	1.8	33.7	50.6
Hong Kong SAR	2011	574	69.1	3.3	69.1	16.0	9.2	1.9	0.5	69.5	68.7
	2015	598	68.9	2.5	68.9	17.0	11.0	0.2	0.3	63.6	73.3
Hungary	2011	739	52.5	3.1	52.5	19.2	23.4	0.9	0.9	47.3	56.7
	2015	706	60.1	2.9	60.1	17.2	19.2	0.6	0.0	54.1	66.4
Iran, Islamic Rep. of	2011	869	50.1	3.5	50.1	22.4	18.9	2.4	2.8	46.1	53.6
	2015	863	46.5	5.9	46.5	21.9	20.0	2.8	2.9	41.8	50.8
Israel	2011	661	28.5	7.1	28.5	30.2	29.9	2.6	1.8	23.7	33.2
	2015	771	33.1	8.0	33.1	26.5	28.3	1.4	2.7	25.8	39.3
Italy	2011	565	44.6	3.2	44.6	29.4	19.5	2.0	1.4	38.6	50.4
	2015	640	47.4	2.9	47.4	27.8	19.5	1.6	0.9	41.5	53.5
Japan	2011	627	58.3	0.5	58.3	31.6	8.8	0.5	0.3	50.8	66.3
	2015	682	59.2	1.1	59.2	28.5	10.2	0.9	0.1	57.1	61.4
Jordan	2011	1079	31.6	12.6	31.6	22.4	31.2	1.5	0.8	25.6	37.0
	2015	1122	20.3	14.2	20.3	27.2	34.7	1.9	1.8	17.2	23.7
Kazakhstan	2011	622	23.4	6.7	23.4	48.0	20.2	0.9	0.9	20.9	25.7
	2015	701	29.1	3.7	29.1	45.8	19.0	1.7	0.7	27.5	30.9
Korea, Rep. of	2011	743	61.8	0.9	61.8	26.9	10.3	0.0	0.0	60.9	62.8
	2015	756	66.3	0.0	66.3	24.3	9.0	0.3	0.1	66.7	66.1
Lebanon	2011	563	18.2	11.2	18.2	31.6	28.3	7.4	3.3	15.7	21.1
	2015	546	19.3	13.7	19.3	24.3	31.5	8.1	3.0	19.1	19.6
Lithuania	2011	674	52.9	1.4	52.9	26.8	16.2	2.2	0.4	50.7	54.8
	2015	619	43.5	2.6	43.5	33.1	18.0	2.5	0.3	37.0	50.1

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S07_15 (S042217): Earth Science / Knowing Type: MC Key: B
Label: Shadow of a tree on a sunny day

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	46.5	5.2	46.5	24.1	21.4	0.6	2.2	43.1	49.5
	2015	1392	53.0	4.7	53.0	17.6	19.8	1.2	3.6	53.9	52.1
Morocco	2011	1321	28.8	7.4	28.8	23.7	29.9	2.7	7.4	21.7	35.4
	2015	1856	26.0	12.2	26.0	23.8	33.1	3.1	1.8	20.8	30.1
New Zealand	2011	756	53.0	3.9	53.0	21.0	19.7	1.9	0.5	42.9	62.1
	2015	1176	48.7	3.0	48.7	21.7	22.6	3.4	0.5	44.3	53.4
Oman	2011	1368	28.6	13.8	28.6	24.8	27.5	2.3	3.0	22.7	34.8
	2015	1253	28.0	11.9	28.0	25.0	32.7	1.5	0.8	21.3	34.0
Qatar	2011	635	32.2	10.3	32.2	24.7	29.8	1.6	1.3	27.9	36.4
	2015	774	31.5	8.0	31.5	22.8	34.5	2.2	1.0	26.9	35.9
Russian Federation	2011	707	50.1	1.6	50.1	22.3	22.0	1.4	2.6	45.3	54.8
	2015	685	46.0	2.0	46.0	23.6	24.4	3.3	0.8	35.9	55.6
Saudi Arabia	2011	628	29.6	11.9	29.6	25.6	32.0	0.3	0.6	19.5	38.8
	2015	524	27.4	11.3	27.4	25.7	33.7	1.1	0.9	21.1	34.0
Singapore	2011	848	68.4	2.0	68.4	16.6	12.7	0.2	0.1	64.3	72.3
	2015	872	74.9	1.4	74.9	9.9	12.6	0.6	0.5	73.1	76.6
Slovenia	2011	633	73.4	0.6	73.4	12.6	13.2	0.2	0.0	65.9	80.3
	2015	608	72.1	0.6	72.1	12.9	12.9	1.5	0.0	67.2	76.4
South Africa	2011	1713	28.6	17.2	28.6	25.3	21.1	3.6	4.2	23.2	33.7
	2015	1790	27.8	12.6	27.8	29.8	22.6	3.8	3.3	26.7	28.9
Sweden	2011	783	63.5	2.8	63.5	17.0	14.8	1.3	0.6	60.8	66.0
	2015	574	63.3	1.9	63.3	15.7	12.7	2.4	3.9	61.7	65.1
Thailand	2011	874	48.4	4.3	48.4	21.5	20.6	2.5	2.6	46.4	50.9
	2015	920	46.4	6.5	46.4	19.5	24.6	1.7	1.3	48.1	44.2
Turkey	2011	984	48.2	4.5	48.2	21.4	24.5	0.7	0.7	39.8	56.9
	2015	861	48.2	4.3	48.2	21.8	24.0	0.6	1.1	43.2	53.0
United Arab Emirates	2011	1999	33.4	7.7	33.4	24.1	32.1	1.2	1.4	28.8	37.8
	2015	2582	33.2	10.3	33.2	22.0	31.6	1.9	1.0	26.9	39.3
United States	2011	1509	42.5	2.3	42.5	28.3	24.0	0.8	2.1	35.3	49.9
	2015	1463	46.2	2.4	46.2	24.8	22.8	1.2	2.7	40.6	51.6

International Avg (n=33)	2011	28521	45.0	5.4	45.0	24.6	21.5	1.7	1.8	40.2	49.6
	2015	31112	45.0	5.6	45.0	23.6	22.3	1.9	1.6	41.0	48.9

Ontario, Canada	2011	681	39.7	2.7	39.7	25.8	26.2	2.3	3.3	29.3	48.4
	2015	643	47.3	3.2	47.3	20.4	24.0	1.2	3.9	40.0	54.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_15 (S042217): Earth Science / Knowing Type: MC Key: B
Label: Shadow of a tree on a sunny day

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	32.7	4.2	32.7	31.0	30.3	0.9	0.9	24.6	41.9
	2015	551	39.9	3.7	39.9	26.5	26.0	2.1	1.7	32.6	47.5
Norway (8)	2011	552	49.8	3.5	49.8	24.4	19.2	1.5	1.5	47.0	53.2
	2015	695	51.0	4.7	51.0	23.5	16.5	2.4	1.9	52.2	49.8
Abu Dhabi, UAE	2011	623	30.1	8.5	30.1	25.9	33.1	1.3	1.1	21.6	37.5
	2015	698	31.7	11.0	31.7	21.9	33.4	1.2	0.8	25.5	37.4
Dubai, UAE	2011	784	39.9	6.6	39.9	22.7	28.2	1.0	1.6	35.8	43.7
	2015	877	40.3	5.8	40.3	21.2	29.3	2.0	1.5	38.5	42.3
Florida, US	2011	239	43.7	2.4	43.7	30.7	21.8	0.3	1.1	37.0	50.0
	2015	302	32.3	3.8	32.3	33.0	26.0	1.6	3.3	24.6	39.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S07_16 (S042406): Earth Science / Applying Type: CR 1 Point
Label: Direction river flows

COUNTRY	Year	N	10 %	70 %	71 %	72 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1059	42.6	20.2	0.8	3.1	28.4	4.1	0.7	42.6	33.5	52.1
	2015	1474	34.4	27.6	0.9	5.4	26.7	3.4	1.6	34.4	30.5	38.5
Bahrain	2011	654	11.2	17.0	4.5	4.6	43.3	17.6	1.7	11.2	10.4	12.0
	2015	693	13.5	13.7	2.3	7.6	50.0	11.7	1.2	13.5	13.8	13.2
Botswana	2011	768	9.4	10.3	0.9	10.1	52.1	8.8	8.5	9.4	5.4	13.7
	2015	859	4.0	12.0	1.9	11.0	51.7	9.3	10.1	4.0	3.7	4.4
Chile	2011	830	21.2	23.4	0.7	4.9	31.5	13.6	4.6	21.2	17.4	25.5
	2015	679	26.1	21.2	2.0	3.3	29.0	16.0	2.4	26.1	19.0	33.6
Chinese Taipei	2011	716	69.8	13.2	3.4	1.4	7.6	4.6	0.1	69.8	71.0	68.7
	2015	820	71.1	13.0	2.2	0.7	9.1	3.9	0.0	71.1	68.2	74.1
England	2011	545	40.3	29.6	0.6	2.7	20.1	5.8	1.0	40.3	36.5	43.6
	2015	678	33.9	31.5	0.8	2.9	23.4	5.9	1.5	33.9	30.7	37.5
Georgia	2011	653	29.4	9.5	3.5	6.7	17.0	28.8	5.0	29.4	28.9	29.9
	2015	577	27.0	13.1	9.3	2.9	18.8	24.9	4.0	27.0	24.1	29.9
Hong Kong SAR	2011	574	53.3	17.8	2.0	2.6	17.5	6.3	0.5	53.3	52.0	54.7
	2015	598	55.8	19.4	3.0	2.6	14.3	4.5	0.3	55.8	49.9	60.8
Hungary	2011	739	46.7	26.2	1.7	3.3	13.6	7.6	0.9	46.7	39.7	52.4
	2015	706	48.7	28.1	1.3	1.9	13.9	6.0	0.1	48.7	42.7	55.1
Iran, Islamic Rep. of	2011	869	22.1	16.9	2.8	10.9	28.9	14.0	4.4	22.1	21.0	23.0
	2015	863	25.4	13.6	2.9	8.4	33.3	12.6	3.8	25.4	24.0	26.6
Israel	2011	661	27.5	13.9	2.2	7.3	33.8	12.9	2.4	27.5	21.3	33.4
	2015	771	31.1	16.3	1.5	5.2	31.3	11.7	3.0	31.1	23.2	37.8
Italy	2011	565	35.5	38.9	1.3	2.3	10.5	9.5	2.0	35.5	30.4	40.5
	2015	640	29.9	41.2	3.3	1.5	11.7	11.1	1.3	29.9	25.2	34.8
Japan	2011	627	64.3	21.0	0.4	1.5	7.9	4.3	0.5	64.3	60.0	68.9
	2015	682	57.7	32.7	0.5	0.3	6.2	2.4	0.1	57.7	56.3	59.2
Jordan	2011	1079	9.4	12.0	4.3	14.1	42.3	16.8	1.1	9.4	8.3	10.4
	2015	1122	6.8	3.3	0.6	1.6	71.2	14.3	2.3	6.8	6.9	6.7
Kazakhstan	2011	622	55.6	5.7	3.3	3.1	12.4	18.6	1.4	55.6	52.0	58.9
	2015	701	53.0	4.7	9.3	2.9	18.0	11.4	0.7	53.0	53.3	52.7
Korea, Rep. of	2011	743	52.9	25.4	1.2	0.3	16.2	4.0	0.0	52.9	50.0	56.0
	2015	756	43.5	16.9	2.5	0.4	32.6	3.9	0.3	43.5	37.5	48.6
Lebanon	2011	570	14.8	22.8	0.6	8.7	27.2	21.1	4.9	14.8	9.9	20.7
	2015	550	14.5	16.4	1.2	1.7	20.5	40.2	5.6	14.5	14.2	14.8
Lithuania	2011	674	37.0	32.9	1.4	2.9	20.7	4.4	0.6	37.0	33.1	40.6
	2015	619	35.0	32.5	0.5	0.8	25.7	5.2	0.4	35.0	30.6	39.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_16 (S042406): Earth Science / Applying Type: CR 1 Point
Label: Direction river flows

COUNTRY	Year	N	10 %	70 %	71 %	72 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	822	13.1	25.2	4.1	5.7	31.5	18.0	2.3	13.1	13.1	13.0
	2015	1392	15.0	24.5	2.4	7.5	31.0	15.2	4.3	15.0	12.0	18.1
Morocco	2011	1331	9.7	9.6	2.2	1.0	44.8	24.1	8.6	9.7	7.4	11.9
	2015	1845	15.9	8.2	1.8	5.7	44.8	21.4	2.2	15.9	14.4	17.2
New Zealand	2011	756	42.0	22.8	0.7	3.8	23.7	6.3	0.7	42.0	34.4	48.9
	2015	1176	41.2	26.0	0.9	1.2	25.0	5.0	0.5	41.2	37.3	45.5
Oman	2011	1368	18.1	10.1	1.3	3.2	45.3	17.8	4.1	18.1	20.3	15.9
	2015	1255	16.7	20.3	3.4	6.0	40.7	11.8	1.2	16.7	16.1	17.3
Qatar	2011	635	9.5	17.0	1.7	4.1	46.8	18.7	2.2	9.5	8.4	10.5
	2015	774	9.6	19.8	3.3	11.4	40.1	14.7	1.2	9.6	8.1	11.0
Russian Federation	2011	707	40.9	29.9	2.3	1.7	13.6	8.4	3.2	40.9	35.5	46.2
	2015	685	47.8	25.2	2.8	1.7	12.9	8.7	1.0	47.8	47.0	48.6
Saudi Arabia	2011	629	5.9	17.5	5.5	13.0	43.0	14.1	0.9	5.9	4.4	7.3
	2015	524	10.7	15.9	2.3	9.1	42.3	18.9	0.9	10.7	15.3	5.7
Singapore	2011	847	47.7	24.7	0.4	2.1	22.8	2.2	0.2	47.7	45.0	50.2
	2015	872	44.6	20.0	0.3	0.9	30.7	2.8	0.6	44.6	37.9	50.8
Slovenia	2011	633	50.6	25.9	1.8	5.6	12.3	3.8	0.0	50.6	46.5	54.4
	2015	608	53.0	25.5	1.1	3.3	13.3	3.7	0.1	53.0	53.1	52.9
South Africa	2011	1713	4.4	4.7	5.5	9.2	50.4	20.5	5.4	4.4	3.4	5.3
	2015	1789	7.1	14.9	1.9	13.8	47.5	10.0	4.7	7.1	5.5	8.6
Sweden	2011	782	44.6	18.8	0.6	4.6	22.6	8.0	0.8	44.6	40.7	48.1
	2015	574	49.0	15.5	1.6	3.3	19.2	7.2	4.1	49.0	42.6	54.8
Thailand	2011	874	20.6	5.4	9.9	6.1	26.6	27.6	3.8	20.6	19.0	22.4
	2015	920	18.3	4.1	9.9	5.5	39.8	20.1	2.2	18.3	18.9	17.5
Turkey	2011	984	17.5	12.6	5.2	12.7	34.2	17.0	0.9	17.5	13.3	21.8
	2015	861	15.3	17.1	3.9	17.7	35.0	9.7	1.3	15.3	13.1	17.4
United Arab Emirates	2011	1999	15.0	19.3	2.2	6.0	43.4	12.2	1.9	15.0	12.9	17.1
	2015	2582	15.5	22.3	2.4	5.1	41.6	11.9	1.2	15.5	14.9	16.1
United States	2011	1509	33.4	28.9	0.2	3.4	29.4	2.5	2.2	33.4	26.1	41.0
	2015	1463	34.9	33.5	0.2	1.9	24.8	2.1	2.7	34.9	28.7	40.9

International Avg (n=33)	2011	28537	30.8	19.1	2.4	5.2	27.9	12.2	2.3	30.8	27.6	33.9
	2015	31108	30.5	19.7	2.5	4.7	29.6	11.0	2.0	30.5	27.8	33.0

Ontario, Canada	2011	681	34.5	18.1	0.9	6.4	26.1	9.9	4.2	34.5	26.2	41.5
	2015	645	30.4	23.2	0.5	1.7	34.8	5.3	4.1	30.4	25.8	34.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S07_16 (S042406): Earth Science / Applying Type: CR 1 Point
Label: Direction river flows

COUNTRY	Year	N	10 %	70 %	71 %	72 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	875	32.2	29.1	0.9	3.0	27.2	6.4	1.2	32.2	26.3	38.9
	2015	551	38.3	25.1	0.7	1.9	26.6	5.2	2.1	38.3	28.0	48.9
Norway (8)	2011	552	52.2	14.3	2.1	4.9	20.5	4.4	1.5	52.2	50.4	54.4
	2015	695	43.3	24.8	1.1	6.8	17.9	3.7	2.4	43.3	44.8	41.8
Abu Dhabi, UAE	2011	623	13.3	17.9	3.3	6.3	44.9	12.4	1.9	13.3	9.0	17.1
	2015	698	13.2	19.7	2.5	4.6	45.6	13.6	0.8	13.2	13.3	13.0
Dubai, UAE	2011	784	23.1	21.3	1.1	3.4	38.1	11.2	1.7	23.1	21.9	24.2
	2015	877	21.8	30.1	1.9	5.9	31.1	7.3	1.8	21.8	18.7	25.3
Florida, US	2011	239	32.2	29.8	0.0	2.6	30.4	3.9	1.1	32.2	26.9	37.3
	2015	302	21.5	32.9	0.0	2.0	35.3	4.9	3.5	21.5	15.6	26.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_01 (S052076): Biology / Knowing Type: MC Key: A
Label: Best source of carbohydrates

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	49.6	49.6	14.8	20.5	14.1	0.9	0.0	54.6	45.0
	2015	1450	61.2	61.2	7.9	16.0	13.3	1.6	0.0	67.9	54.4
Bahrain	2011	666	51.5	51.5	13.1	20.4	13.4	1.4	0.1	61.6	41.2
	2015	707	40.1	40.1	15.1	25.6	18.2	1.0	0.0	43.5	37.0
Botswana	2011	772	44.9	44.9	9.2	19.1	25.5	1.3	0.0	49.5	40.2
	2015	852	53.1	53.1	9.1	14.6	22.2	0.8	0.2	61.6	44.9
Chile	2011	830	25.3	25.3	21.3	26.2	24.3	2.8	0.2	25.8	24.7
	2015	676	36.2	36.2	15.1	31.3	15.1	1.9	0.4	38.6	34.1
Chinese Taipei	2011	716	53.0	53.0	12.7	10.7	23.6	0.0	0.0	52.6	53.4
	2015	810	58.7	58.7	12.2	7.9	20.7	0.5	0.0	56.0	61.2
England	2011	556	72.8	72.8	6.1	11.5	8.9	0.6	0.2	78.7	66.9
	2015	687	80.4	80.4	3.8	11.6	3.7	0.6	0.0	83.0	77.6
Georgia	2011	654	46.3	46.3	13.7	17.0	20.4	2.4	0.1	47.4	45.2
	2015	581	37.5	37.5	14.1	23.5	23.1	1.6	0.1	42.3	33.8
Hong Kong SAR	2011	575	78.6	78.6	4.1	7.5	9.7	0.2	0.0	76.2	80.9
	2015	590	83.6	83.6	3.3	5.0	7.9	0.2	0.0	85.5	81.9
Hungary	2011	736	36.1	36.1	33.9	21.9	7.7	0.4	0.0	42.0	30.8
	2015	691	45.7	45.7	27.7	18.1	7.7	0.7	0.0	50.0	41.8
Iran, Islamic Rep. of	2011	846	27.4	27.4	13.0	32.1	25.8	1.7	0.0	30.2	25.1
	2015	872	40.4	40.4	13.5	17.4	26.6	1.9	0.2	44.4	36.8
Israel	2011	674	58.3	58.3	18.5	11.0	9.8	2.4	0.0	65.2	51.3
	2015	790	67.8	67.8	12.0	10.9	7.6	1.2	0.4	67.3	68.3
Italy	2011	567	56.0	56.0	19.1	13.0	10.6	1.2	0.2	64.8	47.6
	2015	627	54.7	54.7	23.4	11.6	9.3	1.1	0.0	60.6	49.5
Japan	2011	630	81.1	81.1	12.0	4.1	2.6	0.2	0.0	89.2	73.9
	2015	671	86.7	86.7	8.2	3.8	1.0	0.3	0.0	88.5	84.9
Jordan	2011	1100	46.6	46.6	13.3	15.6	22.9	1.5	0.1	58.9	34.3
	2015	1122	50.4	50.4	11.0	15.7	22.1	0.8	0.0	56.1	44.3
Kazakhstan	2011	633	55.3	55.3	12.6	21.2	8.8	2.1	0.0	56.1	54.6
	2015	696	66.1	66.1	9.5	15.6	8.5	0.4	0.0	65.0	67.1
Korea, Rep. of	2011	736	77.6	77.6	4.6	6.7	10.8	0.3	0.0	81.5	73.5
	2015	749	85.9	85.9	3.7	6.9	3.4	0.1	0.0	87.9	84.1
Lebanon	2011	563	36.7	36.7	16.6	20.9	19.2	6.6	0.0	36.0	37.5
	2015	548	39.4	39.4	11.5	16.9	23.8	8.2	0.2	37.0	42.2
Lithuania	2011	671	40.9	40.9	7.4	34.0	16.7	1.0	0.0	42.6	39.0
	2015	619	49.1	49.1	6.7	25.7	18.3	0.3	0.0	55.0	42.8

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S09_01 (S052076): Biology / Knowing Type: MC Key: A
Label: Best source of carbohydrates

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	55.2	55.2	8.7	17.1	18.7	0.5	0.0	60.6	49.3
	2015	1389	68.6	68.6	7.0	11.7	11.8	0.7	0.2	72.0	65.4
Morocco	2011	1289	13.9	13.9	14.8	34.0	34.0	3.1	0.3	13.6	14.2
	2015	1886	15.6	15.6	12.4	26.8	41.3	3.8	0.1	13.4	17.6
New Zealand	2011	745	53.7	53.7	11.8	16.6	15.7	2.1	0.0	59.5	49.0
	2015	1184	66.0	66.0	7.3	13.0	12.0	1.7	0.1	70.1	61.6
Oman	2011	1363	37.5	37.5	12.7	23.5	22.1	3.9	0.2	47.3	27.1
	2015	1272	37.4	37.4	10.4	21.1	29.0	1.7	0.4	45.2	30.6
Qatar	2011	634	45.0	45.0	11.9	23.3	17.8	1.9	0.1	48.8	41.3
	2015	762	48.8	48.8	9.0	22.3	18.5	1.4	0.0	54.3	43.1
Russian Federation	2011	708	53.5	53.5	17.3	18.3	10.5	0.4	0.0	56.5	50.2
	2015	686	53.9	53.9	18.1	14.8	12.1	1.0	0.0	60.6	48.3
Saudi Arabia	2011	610	32.4	32.4	12.0	24.1	30.8	0.8	0.0	36.3	28.7
	2015	540	28.0	28.0	16.7	33.3	21.9	0.2	0.0	29.9	26.2
Singapore	2011	843	73.5	73.5	10.9	6.1	9.1	0.4	0.0	79.0	68.3
	2015	869	76.9	76.9	7.5	7.8	7.7	0.1	0.0	79.8	74.2
Slovenia	2011	621	69.3	69.3	5.3	17.8	6.6	1.1	0.0	72.4	66.2
	2015	612	70.3	70.3	3.7	17.0	8.6	0.4	0.0	77.9	63.4
South Africa	2011	1699	46.4	46.4	6.8	16.4	28.9	1.4	0.2	51.5	41.8
	2015	1794	50.6	50.6	6.1	13.9	28.2	1.1	0.0	52.8	48.3
Sweden	2011	775	65.9	65.9	14.4	9.9	8.9	1.0	0.0	76.9	56.3
	2015	589	75.4	75.4	6.8	7.1	7.5	3.2	0.1	78.6	71.8
Thailand	2011	886	65.3	65.3	8.4	15.6	10.3	0.4	0.0	66.0	64.4
	2015	928	59.2	59.2	10.0	19.3	10.9	0.6	0.0	62.2	55.9
Turkey	2011	988	56.4	56.4	13.0	12.0	17.0	1.4	0.1	57.3	55.6
	2015	868	58.5	58.5	13.4	13.1	14.7	0.2	0.0	66.7	51.0
United Arab Emirates	2011	2005	45.4	45.4	10.9	21.1	21.7	0.7	0.2	49.6	41.3
	2015	2588	50.8	50.8	11.4	18.5	18.1	1.0	0.1	52.0	49.6
United States	2011	1487	49.1	49.1	16.3	19.9	13.6	1.1	0.0	52.7	45.7
	2015	1463	55.7	55.7	11.3	16.1	15.8	1.1	0.1	56.7	54.6

International Avg (n=33)	2011	28503	51.5	51.5	12.8	17.8	16.4	1.4	0.1	55.8	47.4
	2015	31168	56.1	56.1	10.9	16.2	15.5	1.3	0.1	59.5	53.0

Ontario, Canada	2011	671	44.8	44.8	14.4	21.3	17.6	1.7	0.2	48.0	41.8
	2015	643	57.5	57.5	11.4	18.2	12.1	0.9	0.0	62.7	53.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_01 (S052076): Biology / Knowing Type: MC Key: A
Label: Best source of carbohydrates

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	34.3	34.3	13.0	30.0	21.3	1.0	0.5	37.2	30.8
	2015	565	35.2	35.2	10.8	29.1	24.6	0.3	0.0	40.9	29.3
Norway (8)	2011	551	37.7	37.7	20.3	28.9	12.3	0.9	0.0	41.7	33.9
	2015	689	32.4	32.4	22.5	28.0	15.1	2.0	0.0	40.1	25.2
Abu Dhabi, UAE	2011	625	42.5	42.5	12.0	21.4	23.4	0.8	0.0	43.8	41.4
	2015	698	42.4	42.4	12.3	22.3	22.4	0.6	0.0	43.0	41.8
Dubai, UAE	2011	791	56.5	56.5	8.7	18.2	15.5	0.7	0.4	63.1	50.0
	2015	885	64.3	64.3	9.9	11.7	13.3	0.8	0.0	65.3	63.2
Florida, US	2011	242	49.5	49.5	14.2	18.8	16.9	0.5	0.0	53.6	44.8
	2015	301	45.1	45.1	13.4	19.8	19.8	1.7	0.2	49.1	41.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_02 (S052272): Biology / Reasoning Type: CR 1 Point
Label: Trout and frog populations

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	16.9	48.7	3.6	22.5	8.4	0.0	65.5	61.8	69.0
	2015	1450	17.7	46.1	2.8	25.4	8.0	0.0	63.8	61.9	65.8
Bahrain	2011	666	12.7	26.4	1.5	30.1	29.1	0.1	39.1	49.3	28.7
	2015	707	14.4	25.3	2.2	37.7	20.3	0.0	39.7	47.0	33.4
Botswana	2011	772	7.6	10.4	0.2	69.5	12.3	0.0	18.0	19.2	16.8
	2015	852	7.0	9.2	0.3	72.6	10.4	0.5	16.2	18.0	14.5
Chile	2011	830	11.3	33.5	5.0	26.5	23.6	0.2	44.8	41.5	48.4
	2015	676	9.5	34.1	6.0	24.8	25.3	0.4	43.6	44.9	42.5
Chinese Taipei	2011	716	32.8	41.3	0.4	17.5	8.0	0.0	74.1	72.3	75.8
	2015	810	37.6	41.3	0.4	14.7	6.0	0.0	78.9	82.0	76.1
England	2011	556	17.0	53.4	2.1	20.3	7.1	0.2	70.4	69.3	71.5
	2015	687	21.1	45.9	0.7	24.4	7.8	0.2	67.0	63.2	70.8
Georgia	2011	654	17.4	25.2	1.8	24.6	30.9	0.3	42.6	40.9	44.0
	2015	581	12.1	30.8	0.5	28.3	28.3	0.1	42.8	43.0	42.7
Hong Kong SAR	2011	575	15.2	56.5	0.2	17.8	10.4	0.0	71.7	73.3	70.1
	2015	590	16.4	60.1	0.5	18.6	4.4	0.0	76.5	76.7	76.4
Hungary	2011	736	16.3	43.3	3.2	22.6	14.4	0.0	59.7	58.7	60.5
	2015	691	13.9	47.0	2.3	23.2	13.5	0.0	60.9	57.0	64.5
Iran, Islamic Rep. of	2011	846	20.7	22.3	3.0	31.3	22.6	0.0	43.1	41.8	44.2
	2015	872	26.5	16.3	2.8	32.4	21.8	0.2	42.9	44.9	41.0
Israel	2011	674	6.3	67.0	0.8	13.3	12.6	0.0	73.3	76.9	69.7
	2015	790	9.5	57.8	1.0	16.1	15.1	0.4	67.4	66.3	68.3
Italy	2011	567	20.3	42.5	1.0	17.9	18.1	0.2	62.8	58.0	67.4
	2015	627	14.4	47.0	1.2	18.7	18.8	0.0	61.4	62.6	60.3
Japan	2011	630	36.4	40.9	0.7	15.7	6.2	0.0	77.4	80.4	74.6
	2015	671	31.3	48.8	1.5	13.7	4.6	0.0	80.1	79.3	80.9
Jordan	2011	1100	12.0	29.4	1.5	37.8	19.2	0.1	41.3	42.8	39.9
	2015	1122	15.5	9.5	1.1	55.3	18.5	0.2	25.0	27.5	22.3
Kazakhstan	2011	631	29.7	19.8	2.4	22.8	25.2	0.2	49.4	45.8	53.2
	2015	696	33.1	20.8	0.4	29.1	16.6	0.0	53.9	54.0	53.8
Korea, Rep. of	2011	736	33.7	44.6	0.9	16.6	4.1	0.0	78.3	73.8	83.1
	2015	749	31.7	47.7	0.7	15.2	4.7	0.0	79.5	79.6	79.3
Lebanon	2011	568	10.9	15.5	1.2	32.4	40.0	0.0	26.4	27.2	25.5
	2015	552	7.2	15.7	0.9	25.9	50.1	0.2	22.9	24.3	21.1
Lithuania	2011	671	24.2	37.4	1.2	26.9	10.2	0.0	61.6	61.2	62.1
	2015	619	24.0	46.1	0.9	18.2	10.9	0.0	70.0	67.1	73.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_02 (S052272): Biology / Reasoning Type: CR 1 Point
Label: Trout and frog populations

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	25.4	24.6	1.2	32.4	16.4	0.0	50.0	51.6	48.3
	2015	1389	30.7	27.4	0.1	28.1	13.4	0.2	58.1	57.8	58.4
Morocco	2011	1290	7.6	21.0	0.6	33.5	36.9	0.3	28.6	29.4	27.9
	2015	1885	5.6	24.4	0.5	38.0	31.2	0.2	30.0	33.3	26.8
New Zealand	2011	745	16.2	47.1	2.6	24.0	10.1	0.0	63.3	61.3	65.0
	2015	1184	15.2	45.7	2.8	28.3	7.7	0.2	60.9	62.4	59.3
Oman	2011	1363	9.2	17.7	0.3	45.2	27.3	0.3	26.9	34.7	18.5
	2015	1270	8.1	29.0	1.9	45.4	15.2	0.4	37.1	44.6	30.6
Qatar	2011	634	9.1	23.8	1.4	38.7	26.9	0.1	32.9	34.7	31.1
	2015	762	18.9	21.8	1.1	39.4	18.4	0.3	40.7	44.7	36.6
Russian Federation	2011	708	21.7	46.7	0.1	18.2	13.2	0.0	68.4	71.4	65.2
	2015	686	20.6	49.4	0.0	18.6	11.4	0.0	69.9	68.4	71.2
Saudi Arabia	2011	611	20.6	30.7	1.2	26.1	21.4	0.0	51.3	60.9	41.9
	2015	540	12.9	16.7	0.0	41.2	29.2	0.0	29.6	34.5	24.6
Singapore	2011	843	15.0	55.3	2.3	23.1	4.2	0.0	70.3	72.1	68.7
	2015	869	15.5	61.3	1.7	18.0	3.5	0.0	76.8	76.5	77.1
Slovenia	2011	621	21.9	41.2	3.3	24.2	9.4	0.0	63.1	62.8	63.4
	2015	612	27.5	33.4	3.3	26.6	9.1	0.0	60.9	60.9	61.0
South Africa	2011	1699	5.7	7.3	7.1	53.4	26.4	0.2	12.9	14.8	11.3
	2015	1794	6.5	5.6	0.2	68.1	19.4	0.2	12.1	11.7	12.4
Sweden	2011	775	12.0	54.3	0.7	17.4	15.7	0.0	66.3	70.2	62.8
	2015	589	6.2	62.3	0.7	15.5	15.2	0.1	68.5	72.0	64.6
Thailand	2011	886	22.0	32.5	3.5	25.6	16.4	0.0	54.6	55.7	53.2
	2015	928	17.2	35.2	5.2	30.6	11.7	0.1	52.5	53.2	51.6
Turkey	2011	988	17.9	26.8	2.0	36.8	16.4	0.1	44.7	47.6	41.9
	2015	868	21.9	24.7	1.6	40.3	11.5	0.0	46.6	48.6	44.7
United Arab Emirates	2011	2005	15.2	24.6	2.2	40.8	17.0	0.2	39.8	43.2	36.5
	2015	2587	12.1	29.1	1.7	39.5	17.3	0.3	41.2	46.3	36.3
United States	2011	1487	15.6	44.8	3.0	32.5	4.1	0.0	60.4	60.5	60.3
	2015	1463	14.4	49.6	0.9	31.4	3.6	0.1	64.0	64.1	63.9

International Avg (n=33)	2011	28508	17.5	35.1	1.9	28.4	17.1	0.1	52.5	53.5	51.5
	2015	31168	17.5	35.3	1.5	30.4	15.2	0.1	52.8	53.9	51.7

Ontario, Canada	2011	671	19.7	46.0	3.5	22.9	7.5	0.4	65.7	64.2	67.2
	2015	643	14.8	46.2	6.1	24.9	8.1	0.0	61.0	62.8	59.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_02 (S052272): Biology / Reasoning Type: CR 1 Point
Label: Trout and frog populations

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	25.1	48.8	1.0	16.2	8.5	0.5	73.8	75.0	72.5
	2015	568	15.8	51.8	2.2	21.6	8.6	0.0	67.6	67.9	67.3
Norway (8)	2011	551	13.3	53.3	1.9	20.6	10.9	0.0	66.6	64.9	68.2
	2015	689	15.3	48.7	2.0	21.1	12.9	0.0	64.1	68.1	60.6
Abu Dhabi, UAE	2011	625	15.0	23.2	2.0	44.2	15.6	0.0	38.2	41.2	35.5
	2015	698	10.8	25.1	2.1	44.7	17.3	0.0	36.0	43.9	28.6
Dubai, UAE	2011	791	15.0	28.6	2.7	35.2	18.1	0.4	43.6	49.5	37.8
	2015	884	11.6	40.1	1.9	34.7	11.7	0.0	51.7	54.6	48.6
Florida, US	2011	242	18.6	46.6	1.4	30.2	3.2	0.0	65.2	65.7	64.5
	2015	301	13.3	44.3	0.9	37.0	4.4	0.2	57.6	55.6	59.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_03A (S052085A): Biology / Reasoning Type: CR 1 Point
Label: Crocodile facts: Why well suited

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	27.0	12.2	50.5	10.2	0.0	27.0	27.1	26.9
	2015	1450	23.6	7.9	57.5	10.7	0.3	23.6	22.7	24.6
Bahrain	2011	666	12.8	14.4	40.1	32.7	0.1	12.8	17.6	7.8
	2015	707	11.4	11.5	52.0	25.0	0.2	11.4	14.2	8.9
Botswana	2011	773	7.3	16.2	65.3	11.2	0.0	7.3	8.6	6.0
	2015	851	3.9	9.0	78.5	8.1	0.5	3.9	5.3	2.6
Chile	2011	830	16.0	6.8	46.2	30.5	0.5	16.0	13.7	18.5
	2015	676	14.8	11.0	44.1	29.4	0.7	14.8	16.5	13.3
Chinese Taipei	2011	716	16.1	14.8	49.9	19.2	0.0	16.1	15.9	16.3
	2015	810	31.5	17.0	40.1	11.5	0.0	31.5	34.3	28.9
England	2011	556	31.3	9.0	48.6	10.9	0.2	31.3	30.1	32.5
	2015	687	34.2	4.7	49.6	11.1	0.4	34.2	33.9	34.5
Georgia	2011	654	14.5	10.7	26.9	47.7	0.3	14.5	17.3	11.9
	2015	581	15.0	9.8	35.9	38.9	0.3	15.0	16.7	13.7
Hong Kong SAR	2011	575	26.9	10.6	45.2	17.3	0.0	26.9	28.2	25.7
	2015	590	22.9	15.6	49.6	12.0	0.0	22.9	20.6	24.7
Hungary	2011	736	18.0	7.4	50.2	24.4	0.0	18.0	20.3	16.0
	2015	691	15.2	9.0	55.6	20.1	0.0	15.2	14.5	15.9
Iran, Islamic Rep. of	2011	846	15.1	5.1	50.9	28.9	0.1	15.1	17.9	12.7
	2015	872	5.1	7.7	50.0	37.0	0.2	5.1	5.3	4.9
Israel	2011	674	20.8	6.8	51.9	19.9	0.5	20.8	17.9	23.7
	2015	790	17.2	10.9	51.1	20.1	0.7	17.2	13.9	20.1
Italy	2011	567	26.6	9.4	32.8	30.8	0.3	26.6	27.0	26.2
	2015	627	16.9	17.6	35.4	30.0	0.0	16.9	18.3	15.7
Japan	2011	630	27.3	20.4	34.6	17.7	0.0	27.3	28.2	26.6
	2015	671	34.9	16.1	35.2	13.8	0.0	34.9	35.7	34.1
Jordan	2011	1100	16.8	11.1	51.8	20.2	0.1	16.8	21.7	12.0
	2015	1122	20.8	4.4	52.0	22.4	0.4	20.8	26.1	15.2
Kazakhstan	2011	633	28.5	2.7	27.0	41.6	0.2	28.5	33.4	23.4
	2015	696	29.5	1.3	44.8	24.3	0.1	29.5	33.5	25.9
Korea, Rep. of	2011	736	24.6	25.1	40.3	10.0	0.0	24.6	25.7	23.5
	2015	749	25.1	18.8	42.9	13.2	0.0	25.1	24.9	25.4
Lebanon	2011	568	14.0	22.2	23.8	40.0	0.0	14.0	15.2	12.8
	2015	552	6.3	11.1	31.2	51.1	0.3	6.3	7.4	4.9
Lithuania	2011	671	23.0	15.9	45.5	15.7	0.0	23.0	24.1	21.6
	2015	619	30.5	11.4	43.4	14.7	0.0	30.5	31.3	29.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_03A (S052085A): Biology / Reasoning Type: CR 1 Point
Label: Crocodile facts: Why well suited

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	3.2	5.4	67.4	24.1	0.0	3.2	3.2	3.1
	2015	1389	5.9	6.8	67.4	19.7	0.2	5.9	6.0	5.9
Morocco	2011	1290	3.0	5.2	53.4	37.8	0.5	3.0	3.8	2.3
	2015	1886	1.5	6.9	56.4	35.0	0.2	1.5	2.3	0.8
New Zealand	2011	745	22.2	10.1	53.5	14.3	0.0	22.2	20.9	23.2
	2015	1184	24.7	7.6	56.7	10.8	0.2	24.7	24.1	25.4
Oman	2011	1363	12.0	1.6	56.0	30.2	0.3	12.0	15.3	8.5
	2015	1272	14.2	16.7	53.9	14.7	0.4	14.2	17.0	11.8
Qatar	2011	634	12.4	8.9	48.9	29.3	0.5	12.4	15.9	8.9
	2015	762	14.2	12.1	52.9	20.2	0.7	14.2	17.1	11.1
Russian Federation	2011	708	26.2	7.6	39.8	26.3	0.1	26.2	28.7	23.6
	2015	686	17.9	8.5	43.7	29.8	0.0	17.9	19.9	16.2
Saudi Arabia	2011	611	27.2	18.5	32.8	21.5	0.0	27.2	31.0	23.6
	2015	540	7.6	8.5	56.5	27.4	0.0	7.6	10.3	4.9
Singapore	2011	843	28.0	13.2	51.1	7.7	0.0	28.0	28.7	27.3
	2015	869	32.8	6.2	55.3	5.7	0.0	32.8	31.8	33.8
Slovenia	2011	621	7.0	37.2	42.0	13.9	0.0	7.0	9.5	4.3
	2015	612	26.8	15.9	43.1	14.2	0.0	26.8	32.4	21.7
South Africa	2011	1699	2.6	12.3	68.4	16.5	0.2	2.6	2.7	2.4
	2015	1794	2.9	27.0	59.6	10.1	0.4	2.9	3.1	2.7
Sweden	2011	775	22.4	8.3	40.4	28.9	0.0	22.4	24.9	20.2
	2015	589	28.4	7.7	42.2	21.5	0.2	28.4	27.4	29.4
Thailand	2011	886	5.4	17.3	51.0	26.3	0.0	5.4	6.7	3.8
	2015	928	8.6	22.6	47.8	20.8	0.1	8.6	10.0	7.1
Turkey	2011	988	12.2	10.0	47.4	30.3	0.1	12.2	12.8	11.6
	2015	868	14.2	14.6	52.5	18.7	0.0	14.2	18.4	10.3
United Arab Emirates	2011	2005	10.7	11.9	59.1	18.2	0.2	10.7	13.4	8.0
	2015	2588	11.7	13.5	58.3	16.2	0.4	11.7	12.6	10.8
United States	2011	1487	26.1	7.1	59.9	6.9	0.0	26.1	25.6	26.5
	2015	1463	29.4	11.2	57.1	2.2	0.1	29.4	28.4	30.6
International Avg (n=33)	2011	28511	17.8	12.0	47.0	23.1	0.1	17.8	19.2	16.4
	2015	31171	18.2	11.5	50.1	20.0	0.2	18.2	19.3	17.1
Ontario, Canada	2011	671	33.7	8.9	43.0	14.0	0.4	33.7	36.1	31.3
	2015	643	23.2	10.5	54.2	12.2	0.0	23.2	23.4	23.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_03A (S052085A): Biology / Reasoning Type: CR 1 Point
Label: Crocodile facts: Why well suited

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	31.1	14.9	36.1	17.4	0.5	31.1	35.0	26.6
	2015	568	27.8	15.3	46.7	10.2	0.0	27.8	24.8	30.9
Norway (8)	2011	551	13.8	10.2	55.0	21.0	0.0	13.8	15.8	11.9
	2015	689	13.5	8.2	57.5	20.9	0.0	13.5	16.5	10.9
Abu Dhabi, UAE	2011	625	11.8	12.4	61.2	14.4	0.0	11.8	15.1	9.0
	2015	698	8.9	10.9	65.0	15.0	0.2	8.9	9.9	8.0
Dubai, UAE	2011	791	11.2	9.8	55.5	22.9	0.5	11.2	12.6	9.8
	2015	885	20.8	12.6	53.8	12.8	0.0	20.8	21.2	20.2
Florida, US	2011	242	24.2	10.7	56.0	9.1	0.0	24.2	23.1	25.4
	2015	301	26.3	9.8	61.4	2.4	0.2	26.3	29.6	23.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_03B (S052085B): Biology / Reasoning Type: CR 1 Point
Label: Crocodile facts: Advantage vision

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	69.3	25.5	5.2	0.0	69.3	69.0	69.5
	2015	1450	68.7	26.2	4.8	0.3	68.7	71.4	65.8
Bahrain	2011	666	34.5	38.7	26.6	0.1	34.5	42.2	26.6
	2015	707	37.5	42.8	19.4	0.2	37.5	42.3	33.4
Botswana	2011	773	13.4	77.3	9.3	0.0	13.4	14.4	12.3
	2015	851	17.1	74.7	7.5	0.6	17.1	18.9	15.5
Chile	2011	830	50.9	26.1	22.6	0.5	50.9	47.8	54.2
	2015	676	41.4	36.4	21.5	0.7	41.4	38.1	44.4
Chinese Taipei	2011	716	59.0	28.2	12.8	0.0	59.0	64.5	53.7
	2015	810	70.2	21.5	8.2	0.0	70.2	76.6	64.4
England	2011	556	75.3	20.3	4.2	0.2	75.3	75.8	74.8
	2015	687	76.5	19.4	3.8	0.4	76.5	74.7	78.3
Georgia	2011	654	40.2	17.2	42.3	0.3	40.2	36.1	43.9
	2015	581	39.1	20.2	40.4	0.3	39.1	39.6	38.7
Hong Kong SAR	2011	575	55.7	33.7	10.6	0.0	55.7	55.7	55.7
	2015	590	65.9	27.4	6.7	0.0	65.9	67.8	64.3
Hungary	2011	736	58.4	22.4	19.2	0.0	58.4	60.9	56.1
	2015	691	59.4	24.3	16.2	0.0	59.4	59.7	59.2
Iran, Islamic Rep. of	2011	846	48.6	31.7	19.7	0.1	48.6	48.3	48.8
	2015	872	41.8	29.5	28.3	0.3	41.8	43.9	39.9
Israel	2011	674	65.8	21.6	12.1	0.5	65.8	65.7	65.8
	2015	790	66.4	18.9	14.0	0.7	66.4	65.1	67.6
Italy	2011	567	59.3	18.0	22.5	0.3	59.3	57.7	60.7
	2015	625	63.8	16.1	20.1	0.0	63.8	65.6	62.2
Japan	2011	630	75.2	19.3	5.5	0.0	75.2	77.1	73.6
	2015	671	85.4	11.2	3.4	0.0	85.4	88.6	82.1
Jordan	2011	1100	39.9	41.9	18.1	0.1	39.9	46.3	33.5
	2015	1122	33.5	45.1	21.0	0.4	33.5	37.7	28.9
Kazakhstan	2011	633	46.4	19.6	33.8	0.2	46.4	48.7	44.0
	2015	696	50.6	31.8	17.4	0.3	50.6	51.9	49.4
Korea, Rep. of	2011	736	75.7	18.9	5.4	0.0	75.7	77.8	73.6
	2015	749	67.6	25.4	7.0	0.0	67.6	70.0	65.4
Lebanon	2011	568	26.5	29.5	43.9	0.0	26.5	26.1	26.9
	2015	551	19.8	32.0	47.9	0.3	19.8	19.8	19.9
Lithuania	2011	671	57.3	32.9	9.7	0.0	57.3	62.1	51.9
	2015	619	62.3	29.5	8.2	0.0	62.3	64.1	60.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_03B (S052085B): Biology / Reasoning Type: CR 1 Point
Label: Crocodile facts: Advantage vision

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	28.7	53.5	17.6	0.2	28.7	31.3	25.9
	2015	1389	40.4	45.2	14.2	0.3	40.4	42.4	38.5
Morocco	2011	1290	10.7	53.0	35.5	0.7	10.7	10.7	10.8
	2015	1886	13.9	51.3	34.4	0.3	13.9	16.1	11.9
New Zealand	2011	745	55.0	38.6	6.4	0.0	55.0	58.9	51.9
	2015	1184	66.9	28.2	4.5	0.4	66.9	69.7	63.9
Oman	2011	1363	27.3	46.4	26.1	0.3	27.3	36.4	17.6
	2015	1268	35.1	52.1	12.4	0.4	35.1	39.8	31.0
Qatar	2011	634	28.6	43.5	27.4	0.5	28.6	30.3	26.9
	2015	762	41.2	44.6	13.5	0.7	41.2	44.4	37.9
Russian Federation	2011	708	60.3	21.2	18.4	0.1	60.3	64.2	56.0
	2015	686	54.0	27.5	18.5	0.0	54.0	54.0	53.9
Saudi Arabia	2011	610	48.0	31.8	20.2	0.0	48.0	56.0	40.2
	2015	540	24.6	48.2	27.0	0.2	24.6	33.1	15.9
Singapore	2011	843	83.2	13.1	3.8	0.0	83.2	86.1	80.4
	2015	869	84.0	13.5	2.5	0.0	84.0	84.0	83.9
Slovenia	2011	621	52.3	35.2	12.6	0.0	52.3	53.1	51.3
	2015	612	57.2	30.3	12.5	0.0	57.2	62.7	52.1
South Africa	2011	1699	11.1	73.6	15.1	0.2	11.1	10.8	11.4
	2015	1794	14.1	75.4	10.0	0.5	14.1	16.7	11.5
Sweden	2011	775	61.6	24.3	14.1	0.0	61.6	66.7	57.1
	2015	589	72.1	17.4	10.1	0.4	72.1	75.9	67.8
Thailand	2011	886	43.3	31.3	25.3	0.0	43.3	43.9	42.6
	2015	928	43.4	38.7	17.8	0.1	43.4	46.1	40.3
Turkey	2011	988	57.0	26.1	16.8	0.1	57.0	59.9	54.1
	2015	868	66.6	20.8	12.1	0.4	66.6	72.0	61.7
United Arab Emirates	2011	2005	35.2	50.8	13.8	0.2	35.2	38.6	31.9
	2015	2588	47.1	39.7	12.9	0.4	47.1	53.6	40.7
United States	2011	1487	59.8	36.0	4.1	0.1	59.8	61.8	57.9
	2015	1463	69.5	28.1	2.2	0.2	69.5	72.7	66.0

International Avg (n=33)	2011	28510	48.9	33.4	17.6	0.1	48.9	51.1	46.7
	2015	31164	51.4	33.1	15.2	0.3	51.4	53.9	49.0

Ontario, Canada	2011	671	76.5	14.9	8.3	0.4	76.5	78.1	74.9
	2015	643	78.2	15.8	6.0	0.0	78.2	79.9	76.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_03B (S052085B): Biology / Reasoning Type: CR 1 Point
Label: Crocodile facts: Advantage vision

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	66.2	24.7	8.6	0.5	66.2	66.1	66.2
	2015	568	75.7	18.8	5.5	0.0	75.7	78.8	72.5
Norway (8)	2011	551	57.7	32.1	10.2	0.0	57.7	58.0	57.4
	2015	689	63.9	27.0	9.0	0.0	63.9	68.7	59.5
Abu Dhabi, UAE	2011	625	33.2	56.2	10.6	0.0	33.2	34.5	32.1
	2015	698	44.8	41.0	14.0	0.2	44.8	54.4	35.8
Dubai, UAE	2011	791	44.5	38.6	16.4	0.5	44.5	49.9	39.2
	2015	885	58.2	33.3	8.5	0.0	58.2	60.4	55.8
Florida, US	2011	242	60.3	36.7	3.0	0.0	60.3	59.2	61.6
	2015	301	62.5	34.8	2.3	0.4	62.5	65.6	59.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_04 (S052094): Biology / Applying Type: CR 1 Point
Label: Similarity between bird and frog

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	55.9	33.9	10.2	0.0	55.9	57.5	54.4
	2015	1450	52.4	39.2	8.2	0.3	52.4	54.7	49.9
Bahrain	2011	666	41.2	41.4	17.2	0.1	41.2	56.0	26.0
	2015	707	46.3	39.7	13.7	0.2	46.3	58.2	36.0
Botswana	2011	773	26.4	64.3	9.3	0.0	26.4	28.1	24.6
	2015	850	22.2	69.8	7.2	0.8	22.2	22.2	22.1
Chile	2011	831	25.9	45.0	28.6	0.5	25.9	26.0	25.9
	2015	676	19.3	44.5	35.6	0.7	19.3	21.4	17.4
Chinese Taipei	2011	716	13.8	76.3	9.9	0.0	13.8	15.0	12.6
	2015	810	21.9	69.1	8.9	0.0	21.9	21.3	22.4
England	2011	556	35.6	54.4	9.8	0.2	35.6	35.2	36.1
	2015	687	41.5	48.8	9.3	0.4	41.5	43.4	39.6
Georgia	2011	654	20.9	46.3	32.6	0.3	20.9	24.2	18.0
	2015	581	14.6	56.4	28.7	0.3	14.6	21.6	9.1
Hong Kong SAR	2011	575	34.8	50.2	15.1	0.0	34.8	33.5	35.9
	2015	590	30.6	57.1	12.3	0.0	30.6	28.9	31.9
Hungary	2011	735	8.5	69.5	21.9	0.0	8.5	8.8	8.3
	2015	691	9.1	76.4	14.5	0.0	9.1	8.1	10.0
Iran, Islamic Rep. of	2011	846	21.0	65.8	13.1	0.1	21.0	21.1	20.9
	2015	872	22.4	62.4	14.9	0.3	22.4	26.5	18.6
Israel	2011	674	27.5	48.8	23.2	0.5	27.5	27.2	27.7
	2015	790	29.1	48.0	22.3	0.7	29.1	31.8	26.6
Italy	2011	567	28.9	41.4	29.4	0.3	28.9	27.7	30.1
	2015	627	27.9	46.8	25.2	0.0	27.9	26.8	28.9
Japan	2011	630	46.8	48.5	4.7	0.0	46.8	49.3	44.5
	2015	671	44.9	49.9	5.2	0.0	44.9	46.6	43.1
Jordan	2011	1100	25.6	62.6	11.7	0.1	25.6	32.5	18.6
	2015	1122	32.7	55.1	11.8	0.4	32.7	37.0	28.1
Kazakhstan	2011	633	12.7	70.7	16.5	0.2	12.7	12.2	13.2
	2015	696	19.1	68.8	11.8	0.3	19.1	19.6	18.8
Korea, Rep. of	2011	736	37.0	52.2	10.8	0.0	37.0	37.5	36.4
	2015	749	32.8	57.0	10.2	0.0	32.8	31.0	34.4
Lebanon	2011	568	15.5	56.5	28.0	0.0	15.5	18.1	12.7
	2015	551	16.3	51.0	32.1	0.6	16.3	18.3	13.9
Lithuania	2011	671	24.3	59.4	16.2	0.2	24.3	28.9	18.9
	2015	619	20.5	61.3	18.2	0.0	20.5	20.5	20.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_04 (S052094): Biology / Applying Type: CR 1 Point
Label: Similarity between bird and frog

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	35.4	50.7	13.7	0.2	35.4	41.7	28.7
	2015	1389	40.1	49.1	10.4	0.4	40.1	44.9	35.8
Morocco	2011	1290	17.1	57.0	25.2	0.7	17.1	17.9	16.4
	2015	1881	13.8	63.9	21.9	0.4	13.8	15.0	12.6
New Zealand	2011	745	45.2	43.9	10.9	0.0	45.2	45.2	45.3
	2015	1184	40.8	48.0	10.8	0.4	40.8	44.7	36.7
Oman	2011	1363	27.6	52.4	19.6	0.3	27.6	39.1	15.4
	2015	1273	32.6	56.4	10.6	0.4	32.6	40.7	25.5
Qatar	2011	634	29.5	51.0	19.0	0.5	29.5	35.1	24.0
	2015	762	43.3	42.8	13.3	0.7	43.3	50.1	36.1
Russian Federation	2011	708	21.7	57.6	20.6	0.1	21.7	23.3	20.0
	2015	686	21.0	60.4	18.7	0.0	21.0	21.7	20.4
Saudi Arabia	2011	611	25.6	62.9	11.5	0.0	25.6	29.0	22.3
	2015	540	21.8	57.7	20.3	0.2	21.8	28.7	14.8
Singapore	2011	843	79.1	17.5	3.4	0.0	79.1	81.5	76.8
	2015	869	66.0	31.3	2.7	0.0	66.0	64.0	67.9
Slovenia	2011	621	14.7	67.7	17.6	0.0	14.7	16.6	12.7
	2015	612	16.5	65.7	17.9	0.0	16.5	18.7	14.4
South Africa	2011	1699	6.9	73.5	19.4	0.2	6.9	6.1	7.5
	2015	1794	11.1	74.8	13.5	0.7	11.1	11.1	11.1
Sweden	2011	774	17.3	62.2	20.4	0.1	17.3	19.9	15.1
	2015	588	17.3	63.9	18.4	0.4	17.3	17.8	16.8
Thailand	2011	886	36.8	47.0	16.1	0.1	36.8	40.8	32.1
	2015	928	24.3	61.3	14.3	0.1	24.3	27.5	20.7
Turkey	2011	988	24.9	60.6	14.4	0.1	24.9	24.6	25.1
	2015	868	18.8	68.7	12.0	0.4	18.8	22.1	15.9
United Arab Emirates	2011	2005	49.3	39.5	11.0	0.2	49.3	57.7	41.1
	2015	2588	43.7	45.4	10.6	0.4	43.7	51.5	36.1
United States	2011	1487	48.3	46.9	4.7	0.1	48.3	51.3	45.4
	2015	1463	45.3	51.1	3.3	0.2	45.3	48.4	42.1

International Avg (n=33)	2011	28510	29.7	53.9	16.2	0.2	29.7	32.4	27.1
	2015	31164	29.1	55.8	14.8	0.3	29.1	31.7	26.6

Ontario, Canada	2011	671	48.9	40.8	9.8	0.5	48.9	52.7	45.2
	2015	643	47.4	52.6	0.0	0.0	47.4	52.8	42.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_04 (S052094): Biology / Applying Type: CR 1 Point
Label: Similarity between bird and frog

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	40.2	45.9	13.3	0.6	40.2	40.3	40.2
	2015	568	35.2	64.8	0.0	0.0	35.2	35.7	34.6
Norway (8)	2011	551	21.3	56.2	22.5	0.0	21.3	20.9	21.7
	2015	689	15.3	60.2	24.3	0.3	15.3	17.0	13.9
Abu Dhabi, UAE	2011	625	44.9	45.2	9.9	0.0	44.9	50.9	39.7
	2015	698	31.5	57.0	11.3	0.2	31.5	40.5	23.1
Dubai, UAE	2011	791	49.8	36.5	13.1	0.5	49.8	58.9	40.8
	2015	885	54.0	37.6	8.4	0.0	54.0	57.8	49.9
Florida, US	2011	242	48.9	49.1	2.0	0.0	48.9	46.8	51.3
	2015	301	39.0	54.7	5.9	0.4	39.0	41.2	37.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_05 (S052248): Biology / Applying Type: MC Key: B
Label: Cavefish with no eyes

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	46.6	9.4	46.6	27.3	15.4	1.3	0.0	44.0	49.1
	2015	1449	45.7	8.9	45.7	26.7	16.4	2.2	0.3	46.8	44.4
Bahrain	2011	666	40.5	10.6	40.5	35.5	10.9	2.3	0.1	40.4	40.6
	2015	707	40.9	10.1	40.9	33.6	13.5	1.6	0.2	48.0	34.8
Botswana	2011	773	30.5	14.4	30.5	37.3	16.7	1.1	0.0	25.4	35.8
	2015	851	31.5	10.0	31.5	38.5	16.2	2.6	1.3	27.8	35.0
Chile	2011	831	47.9	11.1	47.9	25.6	12.7	2.0	0.6	44.8	51.2
	2015	676	49.7	12.7	49.7	22.7	12.4	1.7	0.8	48.0	51.3
Chinese Taipei	2011	716	54.9	3.5	54.9	18.3	23.1	0.3	0.0	49.7	59.8
	2015	810	49.1	1.9	49.1	19.8	29.0	0.0	0.2	43.6	54.2
England	2011	556	39.9	6.8	39.9	25.4	25.9	1.9	0.2	39.1	40.6
	2015	687	44.7	7.4	44.7	25.7	20.9	0.8	0.5	41.1	48.4
Georgia	2011	654	23.2	10.0	23.2	44.4	17.2	4.7	0.5	18.6	27.3
	2015	581	27.3	8.8	27.3	42.9	17.2	3.3	0.6	23.2	30.5
Hong Kong SAR	2011	575	49.6	5.6	49.6	27.7	16.0	1.0	0.0	40.6	58.3
	2015	590	49.4	3.0	49.4	26.7	20.2	0.7	0.0	37.7	59.0
Hungary	2011	736	57.5	4.0	57.5	19.5	17.8	1.2	0.0	51.2	63.0
	2015	691	57.6	5.0	57.6	18.8	17.6	1.1	0.0	49.9	64.5
Iran, Islamic Rep. of	2011	846	22.8	18.4	22.8	44.1	12.1	2.6	0.1	20.1	25.0
	2015	872	19.5	14.4	19.5	53.9	9.8	2.1	0.4	17.6	21.2
Israel	2011	674	31.6	15.5	31.6	39.2	11.4	1.8	0.5	29.7	33.6
	2015	790	34.5	12.9	34.5	37.7	11.2	2.9	0.8	31.3	37.3
Italy	2011	567	51.1	5.3	51.1	28.2	13.9	1.3	0.3	46.2	55.7
	2015	627	53.3	5.6	53.3	26.0	12.9	2.2	0.0	49.8	56.3
Japan	2011	630	69.4	2.5	69.4	7.0	20.6	0.5	0.0	66.8	71.8
	2015	671	60.8	3.2	60.8	9.4	26.1	0.5	0.0	57.1	64.6
Jordan	2011	1100	39.5	12.6	39.5	33.4	11.7	2.8	0.1	37.5	41.4
	2015	1122	37.7	12.3	37.7	30.3	16.5	2.9	0.5	37.3	38.2
Kazakhstan	2011	633	45.5	7.2	45.5	31.9	10.8	4.6	0.2	40.6	50.6
	2015	696	51.9	7.7	51.9	23.7	14.6	1.8	0.3	47.8	55.5
Korea, Rep. of	2011	736	59.9	1.9	59.9	21.4	16.6	0.1	0.0	56.1	63.8
	2015	749	52.3	1.3	52.3	22.9	23.4	0.1	0.0	48.9	55.5
Lebanon	2011	562	38.9	8.6	38.9	33.8	13.6	5.1	0.0	35.0	43.2
	2015	545	32.8	10.5	32.8	31.0	13.0	11.5	1.2	32.3	33.3
Lithuania	2011	671	50.0	9.1	50.0	22.9	15.6	2.3	0.2	45.9	54.8
	2015	619	47.5	8.9	47.5	22.1	19.2	2.3	0.0	40.6	54.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S09_05 (S052248): Biology / Applying Type: MC Key: B
Label: Cavefish with no eyes

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	32.5	8.2	32.5	33.2	24.1	1.8	0.3	26.8	38.6
	2015	1389	28.8	11.0	28.8	40.0	18.3	1.5	0.5	22.6	34.4
Morocco	2011	1284	46.8	12.2	46.8	27.2	9.1	4.0	0.7	46.2	47.3
	2015	1881	43.2	13.4	43.2	25.9	14.3	2.9	0.4	43.9	42.5
New Zealand	2011	745	49.4	9.4	49.4	21.3	18.5	1.4	0.0	45.9	52.3
	2015	1184	51.8	8.1	51.8	20.3	17.4	1.9	0.6	45.2	58.9
Oman	2011	1363	42.9	10.5	42.9	24.2	17.3	4.7	0.3	44.8	41.0
	2015	1273	44.8	9.8	44.8	25.4	17.2	2.4	0.4	43.6	45.9
Qatar	2011	634	41.7	15.8	41.7	28.0	11.4	2.6	0.5	41.7	41.6
	2015	762	40.3	13.3	40.3	33.5	9.6	2.6	0.7	43.4	37.0
Russian Federation	2011	708	63.9	4.1	63.9	15.8	13.6	2.6	0.1	59.3	68.8
	2015	686	66.0	5.3	66.0	12.1	14.8	1.8	0.0	60.7	70.4
Saudi Arabia	2011	610	44.0	13.6	44.0	33.6	8.3	0.5	0.0	42.8	45.1
	2015	535	43.6	16.7	43.6	29.1	9.4	0.9	0.2	42.2	45.1
Singapore	2011	842	43.5	9.5	43.5	28.7	18.0	0.3	0.0	37.6	49.2
	2015	869	42.1	11.6	42.1	27.0	18.4	0.8	0.1	34.1	49.9
Slovenia	2011	621	68.8	3.1	68.8	15.5	10.1	2.5	0.0	66.2	71.6
	2015	612	69.0	2.1	69.0	19.2	8.5	1.2	0.0	65.8	71.9
South Africa	2011	1699	32.6	15.2	32.6	36.4	11.5	3.9	0.4	29.9	35.1
	2015	1794	29.0	16.5	29.0	39.1	12.0	2.7	0.7	26.6	31.5
Sweden	2011	775	51.4	7.8	51.4	25.3	13.4	2.0	0.1	51.6	51.2
	2015	588	46.1	6.4	46.1	29.9	14.4	2.8	0.4	42.7	49.9
Thailand	2011	886	44.2	5.0	44.2	28.7	20.0	2.0	0.1	43.4	45.3
	2015	928	53.6	5.8	53.6	23.7	15.7	0.9	0.3	50.9	56.7
Turkey	2011	0	.	.	.	.	.	.	.	.	.
	2015	868	15.7	10.6	15.7	57.8	14.2	1.2	0.5	14.2	17.0
United Arab Emirates	2011	2005	41.4	11.7	41.4	34.1	10.8	1.8	0.2	40.0	42.8
	2015	2588	41.8	11.2	41.8	33.6	11.8	1.2	0.4	41.9	41.7
United States	2011	1487	46.7	10.8	46.7	29.1	12.7	0.6	0.2	45.0	48.2
	2015	1463	50.6	9.4	50.6	22.9	15.2	1.4	0.5	50.5	50.7
International Avg (n=33)	2011	27510	45.3	9.2	45.3	28.2	15.0	2.1	0.2	42.3	48.2
	2015	31153	44.0	9.0	44.0	28.8	15.8	2.0	0.4	41.1	46.7
Ontario, Canada	2011	671	41.1	9.6	41.1	33.3	14.0	1.5	0.6	38.3	43.7
	2015	642	40.7	9.5	40.7	30.4	16.8	2.6	0.0	38.7	42.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_05 (S052248): Biology / Applying Type: MC Key: B
Label: Cavefish with no eyes

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	45.1	6.5	45.1	32.4	14.0	1.6	0.6	41.4	49.3
	2015	565	45.9	4.6	45.9	27.1	21.0	1.3	0.0	41.8	50.3
Norway (8)	2011	551	41.8	4.9	41.8	33.7	18.3	1.3	0.0	38.5	45.0
	2015	689	40.1	5.5	40.1	33.5	18.0	2.7	0.3	34.4	45.1
Abu Dhabi, UAE	2011	625	40.7	12.5	40.7	34.8	10.1	1.8	0.0	38.6	42.6
	2015	698	42.6	12.5	42.6	32.1	11.3	1.3	0.2	42.4	42.8
Dubai, UAE	2011	791	42.1	9.7	42.1	34.8	10.5	2.3	0.6	41.7	42.6
	2015	885	42.1	9.5	42.1	33.6	13.1	1.6	0.1	41.2	43.1
Florida, US	2011	242	44.8	11.7	44.8	24.8	18.7	0.0	0.0	37.7	52.8
	2015	301	47.1	11.2	47.1	22.5	17.7	0.8	0.7	47.4	46.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_06 (S052146): Chemistry / Applying Type: CR 1 Point
Label: Density of corn oil and aluminum

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	34.7	11.7	53.0	0.5	0.1	34.7	33.0	36.3
	2015	1450	33.3	12.9	52.5	1.1	0.3	33.3	32.3	34.3
Bahrain	2011	666	28.2	3.8	66.4	1.5	0.1	28.2	35.1	21.0
	2015	707	37.1	2.4	59.0	1.3	0.2	37.1	42.3	32.5
Botswana	2011	773	27.2	8.8	62.3	1.6	0.0	27.2	26.2	28.2
	2015	851	26.9	4.2	66.1	1.4	1.4	26.9	27.5	26.2
Chile	2011	831	21.3	11.4	64.5	2.1	0.6	21.3	23.0	19.5
	2015	676	17.9	8.7	69.7	3.0	0.8	17.9	18.4	17.4
Chinese Taipei	2011	716	62.3	11.0	26.5	0.2	0.0	62.3	64.9	59.8
	2015	810	66.6	4.0	29.0	0.3	0.2	66.6	70.8	62.7
England	2011	556	37.1	12.1	49.0	1.6	0.2	37.1	36.9	37.3
	2015	687	43.8	15.0	37.9	2.6	0.7	43.8	40.2	47.5
Georgia	2011	647	22.3	5.1	65.3	6.7	0.5	22.3	24.0	20.7
	2015	581	27.3	3.1	66.6	2.5	0.6	27.3	29.6	25.4
Hong Kong SAR	2011	575	57.4	5.8	36.3	0.4	0.0	57.4	58.9	55.9
	2015	590	60.7	4.9	33.7	0.7	0.0	60.7	58.7	62.3
Hungary	2011	736	55.2	8.0	35.9	0.9	0.0	55.2	57.3	53.4
	2015	691	59.8	5.4	34.2	0.1	0.5	59.8	57.2	62.1
Iran, Islamic Rep. of	2011	846	30.9	12.1	55.2	1.7	0.1	30.9	32.0	30.0
	2015	872	43.2	8.9	45.2	2.2	0.5	43.2	45.8	40.8
Israel	2011	674	38.9	10.3	49.0	1.3	0.5	38.9	41.1	36.7
	2015	790	50.2	5.3	41.7	1.8	1.1	50.2	48.2	52.1
Italy	2011	567	31.4	21.9	41.9	4.5	0.3	31.4	32.4	30.6
	2015	627	30.3	22.8	44.7	2.2	0.0	30.3	28.2	32.1
Japan	2011	630	54.0	11.7	34.1	0.3	0.0	54.0	54.0	53.9
	2015	671	61.5	5.5	32.0	1.0	0.0	61.5	62.8	60.1
Jordan	2011	1100	45.0	4.2	49.2	1.4	0.1	45.0	50.6	39.5
	2015	1122	36.6	1.5	60.3	1.1	0.5	36.6	44.0	28.6
Kazakhstan	2011	633	46.2	10.3	32.4	10.9	0.2	46.2	42.8	49.7
	2015	696	45.0	6.9	45.7	2.1	0.3	45.0	48.5	41.9
Korea, Rep. of	2011	736	71.5	4.5	23.3	0.7	0.0	71.5	73.3	69.7
	2015	749	68.7	3.5	27.3	0.5	0.0	68.7	69.1	68.3
Lebanon	2011	568	30.7	7.0	55.8	6.5	0.0	30.7	27.8	33.8
	2015	551	30.3	4.4	58.8	4.6	1.9	30.3	33.0	26.9
Lithuania	2011	671	31.4	12.9	55.2	0.3	0.2	31.4	33.9	28.5
	2015	619	43.8	12.3	43.2	0.6	0.0	43.8	43.4	44.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_06 (S052146): Chemistry / Applying Type: CR 1 Point
Label: Density of corn oil and aluminum

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	31.6	6.1	58.7	3.2	0.5	31.6	34.0	28.9
	2015	1389	53.0	4.8	39.3	2.4	0.5	53.0	55.6	50.6
Morocco	2011	1290	10.7	11.7	70.7	6.1	0.8	10.7	12.0	9.5
	2015	1887	17.5	8.7	69.3	3.9	0.5	17.5	19.7	15.4
New Zealand	2011	745	36.3	15.5	46.6	1.5	0.0	36.3	30.1	41.4
	2015	1184	36.0	15.9	46.3	1.1	0.6	36.0	35.9	36.2
Oman	2011	1363	32.3	2.8	62.3	2.3	0.3	32.3	41.0	23.0
	2015	1272	40.9	8.0	48.6	1.9	0.6	40.9	44.5	37.8
Qatar	2011	634	26.2	3.7	67.8	1.8	0.5	26.2	26.5	25.9
	2015	761	36.1	5.0	57.1	1.1	0.7	36.1	38.9	33.1
Russian Federation	2011	708	48.6	6.1	43.4	1.8	0.1	48.6	49.7	47.4
	2015	686	58.0	15.4	25.4	1.2	0.0	58.0	56.7	59.1
Saudi Arabia	2011	611	33.7	2.1	63.1	1.2	0.0	33.7	36.5	31.0
	2015	542	19.7	4.0	75.0	1.1	0.2	19.7	25.0	14.2
Singapore	2011	843	68.3	5.1	26.5	0.1	0.0	68.3	71.0	65.7
	2015	869	69.9	5.0	24.9	0.1	0.1	69.9	71.5	68.3
Slovenia	2011	621	56.0	13.6	30.0	0.4	0.0	56.0	57.0	55.0
	2015	612	51.2	11.1	37.6	0.0	0.0	51.2	56.3	46.5
South Africa	2011	1699	23.0	5.9	67.6	2.9	0.6	23.0	20.6	25.2
	2015	1794	16.7	1.3	78.8	1.8	1.4	16.7	17.8	15.5
Sweden	2011	775	32.4	13.2	52.8	1.5	0.1	32.4	32.1	32.6
	2015	588	41.1	8.4	46.9	3.3	0.4	41.1	44.0	37.9
Thailand	2011	886	31.3	3.2	58.8	6.6	0.1	31.3	35.6	26.2
	2015	928	39.2	5.5	52.5	2.5	0.3	39.2	42.2	35.7
Turkey	2011	988	43.7	2.9	51.0	2.2	0.1	43.7	48.3	39.3
	2015	868	48.9	2.6	47.3	0.7	0.5	48.9	54.1	44.3
United Arab Emirates	2011	2005	39.1	7.2	52.1	1.3	0.3	39.1	41.6	36.6
	2015	2588	42.8	5.7	50.1	1.0	0.4	42.8	48.4	37.4
United States	2011	1487	43.6	9.0	46.3	0.8	0.3	43.6	42.1	45.1
	2015	1463	52.0	9.3	36.9	1.1	0.7	52.0	52.9	51.0

International Avg (n=33)	2011	28505	38.9	8.5	50.1	2.3	0.2	38.9	40.2	37.5
	2015	31171	42.6	7.3	48.0	1.6	0.5	42.6	44.4	40.9

Ontario, Canada	2011	671	45.3	10.8	40.5	2.8	0.6	45.3	45.4	45.2
	2015	643	48.6	7.3	41.4	1.5	1.3	48.6	50.5	46.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_06 (S052146): Chemistry / Applying Type: CR 1 Point
Label: Density of corn oil and aluminum

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	871	37.9	19.7	39.6	2.2	0.6	37.9	36.2	39.9
	2015	568	28.8	26.5	41.6	3.1	0.0	28.8	26.8	30.9
Norway (8)	2011	551	34.1	12.9	52.0	1.0	0.0	34.1	32.9	35.2
	2015	689	28.5	13.8	55.7	1.8	0.3	28.5	30.3	26.9
Abu Dhabi, UAE	2011	625	36.3	8.3	53.4	2.0	0.0	36.3	37.0	35.6
	2015	698	37.6	4.8	57.0	0.4	0.2	37.6	46.4	29.3
Dubai, UAE	2011	791	42.4	6.3	49.3	1.3	0.7	42.4	49.2	35.7
	2015	885	50.8	6.4	41.8	0.9	0.1	50.8	51.4	50.2
Florida, US	2011	242	47.8	9.1	42.7	0.3	0.0	47.8	42.5	53.8
	2015	301	50.5	9.0	39.0	0.8	0.7	50.5	49.0	51.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_07 (S052282): Chemistry / Knowing Type: MC Key: C
Label: Property of acid and base

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	45.2	13.0	18.1	45.2	20.9	2.8	0.1	41.4	48.8
	2015	1450	41.4	16.9	13.2	41.4	25.1	3.0	0.3	38.0	44.9
Bahrain	2011	666	19.6	8.9	27.6	19.6	41.2	2.6	0.1	17.6	21.6
	2015	707	26.2	8.4	25.3	26.2	37.4	2.4	0.2	31.6	21.5
Botswana	2011	773	26.5	8.0	24.5	26.5	39.7	1.4	0.0	27.0	25.9
	2015	851	28.7	5.7	23.6	28.7	38.8	1.4	1.8	30.7	26.8
Chile	2011	831	32.6	15.3	25.1	32.6	21.4	4.9	0.6	31.4	34.0
	2015	676	32.8	23.6	22.0	32.8	15.4	5.5	0.8	25.2	39.4
Chinese Taipei	2011	716	80.3	6.3	3.2	80.3	10.0	0.2	0.0	80.6	80.1
	2015	810	83.5	4.4	2.4	83.5	9.5	0.0	0.2	84.7	82.3
England	2011	556	41.4	7.2	8.3	41.4	39.9	3.0	0.2	36.4	46.4
	2015	687	42.0	11.1	8.1	42.0	35.7	2.3	0.8	38.1	45.9
Georgia	2011	647	46.8	7.4	21.0	46.8	9.4	14.6	1.0	44.8	48.6
	2015	581	40.7	4.7	16.4	40.7	34.7	2.9	0.7	40.9	40.5
Hong Kong SAR	2011	575	87.2	3.8	2.1	87.2	6.5	0.5	0.0	88.3	86.2
	2015	590	85.6	4.8	2.3	85.6	6.9	0.3	0.0	87.3	84.2
Hungary	2011	736	48.0	3.9	3.9	48.0	42.9	1.3	0.0	43.3	52.2
	2015	691	52.3	5.3	4.4	52.3	36.3	1.1	0.5	49.7	54.7
Iran, Islamic Rep. of	2011	846	37.1	15.8	16.9	37.1	29.0	1.1	0.1	41.2	33.7
	2015	871	30.6	15.7	19.0	30.6	31.8	2.2	0.7	30.0	31.2
Israel	2011	674	32.3	16.2	12.1	32.3	35.8	3.2	0.5	33.9	30.7
	2015	790	36.5	14.9	15.1	36.5	28.6	3.8	1.1	35.0	37.8
Italy	2011	567	45.7	16.4	15.2	45.7	18.9	3.4	0.3	47.2	44.4
	2015	627	42.7	18.5	18.9	42.7	15.9	4.0	0.0	41.2	44.0
Japan	2011	630	51.3	9.2	9.6	51.3	29.4	0.4	0.0	54.6	48.3
	2015	671	50.0	8.1	7.5	50.0	34.0	0.5	0.0	51.0	49.0
Jordan	2011	1100	27.0	1.9	12.9	27.0	57.3	0.9	0.1	30.4	23.6
	2015	1122	23.5	4.2	12.6	23.5	57.4	1.8	0.5	28.9	17.7
Kazakhstan	2011	633	46.1	4.3	13.9	46.1	32.6	2.8	0.2	44.9	47.4
	2015	696	55.4	4.5	16.5	55.4	22.2	1.1	0.3	56.4	54.6
Korea, Rep. of	2011	736	63.2	4.9	5.7	63.2	25.7	0.3	0.0	62.5	64.0
	2015	749	53.4	9.3	4.4	53.4	22.0	10.9	0.0	50.4	56.2
Lebanon	2011	563	20.6	11.8	17.5	20.6	44.7	5.5	0.0	21.8	19.3
	2015	545	28.9	7.3	16.0	28.9	36.9	8.6	2.3	27.6	30.6
Lithuania	2011	671	70.1	3.3	10.6	70.1	13.7	1.9	0.3	73.8	65.9
	2015	619	63.5	3.4	7.5	63.5	23.4	2.2	0.0	66.9	59.9

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S09_07 (S052282): Chemistry / Knowing Type: MC Key: C
Label: Property of acid and base

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	33.1	9.6	10.6	33.1	44.8	1.3	0.6	36.0	29.9
	2015	1389	41.4	13.3	8.5	41.4	35.4	0.8	0.6	45.9	37.3
Morocco	2011	1284	23.3	8.9	49.6	23.3	12.0	5.2	1.0	23.8	22.7
	2015	1887	23.9	9.6	46.0	23.9	16.5	3.4	0.5	25.4	22.5
New Zealand	2011	745	33.1	13.0	19.6	33.1	32.2	2.1	0.0	28.1	37.1
	2015	1184	34.0	18.8	19.5	34.0	24.8	2.2	0.6	30.3	37.9
Oman	2011	1363	15.8	4.4	13.3	15.8	64.8	1.4	0.4	16.0	15.6
	2015	1273	22.7	4.3	14.2	22.7	56.3	1.8	0.7	25.0	20.7
Qatar	2011	634	27.0	10.0	21.7	27.0	38.4	2.3	0.6	28.5	25.5
	2015	762	32.9	9.9	22.9	32.9	31.8	1.8	0.7	32.2	33.6
Russian Federation	2011	708	57.4	2.9	5.5	57.4	32.4	1.7	0.1	57.7	57.1
	2015	686	60.6	3.8	6.2	60.6	28.3	1.1	0.0	64.9	57.0
Saudi Arabia	2011	610	17.0	7.4	41.9	17.0	32.3	1.4	0.0	13.8	20.0
	2015	539	18.6	7.4	41.5	18.6	31.4	0.9	0.2	21.0	16.1
Singapore	2011	843	63.1	12.4	11.8	63.1	12.6	0.1	0.0	64.0	62.3
	2015	869	60.5	15.1	12.3	60.5	11.6	0.4	0.1	63.7	57.5
Slovenia	2011	621	75.9	1.8	7.3	75.9	10.7	4.3	0.0	80.0	71.6
	2015	612	75.2	1.9	8.8	75.2	10.1	4.0	0.0	73.7	76.6
South Africa	2011	1699	20.1	10.7	26.7	20.1	39.4	2.4	0.7	17.8	22.3
	2015	1794	21.6	10.7	21.5	21.6	41.8	2.9	1.6	22.1	21.0
Sweden	2011	775	60.7	6.0	13.2	60.7	16.7	3.1	0.2	63.9	58.0
	2015	589	63.6	4.8	16.4	63.6	9.9	4.6	0.7	67.1	59.6
Thailand	2011	886	36.7	7.5	6.4	36.7	48.4	0.8	0.2	37.0	36.3
	2015	928	40.0	7.9	7.8	40.0	42.8	1.1	0.3	43.3	36.2
Turkey	2011	988	64.5	9.6	8.3	64.5	17.0	0.4	0.1	66.0	63.0
	2015	868	65.1	11.8	9.4	65.1	12.8	0.5	0.5	73.4	57.6
United Arab Emirates	2011	2005	30.7	10.1	20.6	30.7	36.3	1.8	0.5	30.2	31.1
	2015	2588	36.6	11.2	19.1	36.6	30.5	2.2	0.4	37.6	35.6
United States	2011	1487	44.6	16.5	17.6	44.6	19.5	1.4	0.3	42.8	46.5
	2015	1463	44.8	15.2	19.8	44.8	17.3	2.0	0.8	43.8	45.9

International Avg (n=33)	2011	28493	43.2	8.7	15.8	43.2	29.6	2.4	0.2	43.2	43.0
	2015	31164	44.2	9.6	15.4	44.2	27.7	2.5	0.5	44.9	43.5

Ontario, Canada	2011	671	43.3	18.0	18.3	43.3	15.6	4.2	0.6	40.4	46.2
	2015	643	46.5	18.6	14.9	46.5	16.0	2.7	1.3	45.7	47.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_07 (S052282): Chemistry / Knowing Type: MC Key: C
Label: Property of acid and base

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	34.5	4.5	16.7	34.5	39.4	4.3	0.6	27.7	42.3
	2015	563	29.0	6.3	10.2	29.0	53.4	1.1	0.0	25.9	32.4
Norway (8)	2011	551	37.5	11.2	31.3	37.5	15.8	4.2	0.0	39.5	35.6
	2015	689	38.1	11.3	31.1	38.1	14.8	4.4	0.3	38.5	37.8
Abu Dhabi, UAE	2011	625	28.5	10.4	19.6	28.5	39.7	1.3	0.5	29.0	28.1
	2015	698	33.5	12.5	19.6	33.5	32.1	2.1	0.2	37.0	30.1
Dubai, UAE	2011	791	36.3	10.2	19.6	36.3	30.4	2.7	0.8	37.9	34.7
	2015	885	48.0	10.7	15.5	48.0	24.6	1.2	0.1	47.6	48.5
Florida, US	2011	242	51.0	15.0	15.4	51.0	17.4	1.2	0.0	54.3	47.3
	2015	301	45.5	12.3	22.5	45.5	17.4	1.3	1.1	44.0	46.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_08 (S052299): Chemistry / Knowing Type: MC Key: B
Label: Process that makes statue dark

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	46.7	5.4	46.7	13.0	34.0	0.9	0.1	42.9	50.3
	2015	1450	48.0	5.2	48.0	13.1	31.1	2.0	0.7	45.4	50.7
Bahrain	2011	666	56.0	5.8	56.0	6.9	30.2	1.0	0.1	64.1	47.8
	2015	707	58.0	6.5	58.0	6.9	27.9	0.4	0.2	70.0	47.6
Botswana	2011	773	43.7	12.0	43.7	19.6	24.0	0.6	0.0	43.2	44.3
	2015	851	36.4	10.0	36.4	23.8	26.7	0.7	2.4	39.3	33.7
Chile	2011	831	81.0	2.7	81.0	3.1	11.6	0.8	0.8	82.6	79.2
	2015	676	76.4	2.9	76.4	5.8	12.0	1.5	1.4	82.0	71.4
Chinese Taipei	2011	716	86.8	1.3	86.8	0.7	11.2	0.0	0.0	86.1	87.4
	2015	810	89.1	0.6	89.1	0.8	9.2	0.2	0.2	91.4	87.0
England	2011	556	55.4	2.7	55.4	4.7	35.6	1.4	0.2	52.1	58.6
	2015	687	53.5	4.8	53.5	9.1	31.2	0.4	0.8	50.7	56.5
Georgia	2011	654	65.3	8.7	65.3	13.6	8.7	2.4	1.3	67.3	63.4
	2015	581	76.6	5.3	76.6	7.9	8.9	0.6	0.7	83.4	71.4
Hong Kong SAR	2011	575	72.4	1.1	72.4	1.3	25.2	0.0	0.0	70.0	74.6
	2015	590	74.1	1.6	74.1	0.7	23.5	0.1	0.0	72.6	75.3
Hungary	2011	736	77.1	1.9	77.1	5.7	15.2	0.1	0.0	74.5	79.5
	2015	691	72.9	4.0	72.9	9.1	13.4	0.1	0.5	69.0	76.4
Iran, Islamic Rep. of	2011	846	48.1	11.6	48.1	7.2	31.6	1.4	0.1	50.5	46.0
	2015	871	40.1	7.7	40.1	6.9	42.9	1.2	1.1	41.1	39.2
Israel	2011	674	56.1	7.0	56.1	9.8	25.8	0.8	0.5	57.3	54.9
	2015	790	55.5	5.9	55.5	10.2	26.1	1.0	1.2	54.2	56.8
Italy	2011	567	76.8	3.6	76.8	9.1	10.2	0.0	0.3	74.8	78.8
	2015	627	78.2	2.8	78.2	10.2	8.5	0.3	0.0	76.6	79.6
Japan	2011	630	90.1	1.1	90.1	3.7	4.7	0.4	0.0	90.5	89.7
	2015	671	89.5	1.4	89.5	3.1	5.8	0.1	0.0	90.2	88.9
Jordan	2011	1100	72.4	2.7	72.4	7.2	16.6	1.0	0.1	77.1	67.7
	2015	1122	66.5	3.7	66.5	7.3	20.2	1.9	0.5	73.0	59.4
Kazakhstan	2011	633	68.7	2.8	68.7	11.3	16.3	0.4	0.4	69.3	68.1
	2015	696	70.7	5.2	70.7	10.1	12.1	1.3	0.5	70.9	70.6
Korea, Rep. of	2011	736	66.7	2.0	66.7	3.9	27.4	0.0	0.0	66.2	67.2
	2015	749	63.6	1.7	63.6	4.4	30.3	0.0	0.0	63.4	63.9
Lebanon	2011	565	43.9	11.3	43.9	18.5	19.1	7.0	0.2	41.9	46.1
	2015	547	42.6	11.4	42.6	20.5	15.6	7.0	2.9	44.1	40.8
Lithuania	2011	671	68.6	5.2	68.6	14.7	10.4	0.8	0.3	68.7	68.5
	2015	619	65.2	3.8	65.2	19.0	11.0	1.0	0.0	64.2	66.2

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S09_08 (S052299): Chemistry / Knowing Type: MC Key: B
Label: Process that makes statue dark

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	47.2	11.5	47.2	18.6	21.8	0.4	0.6	49.7	44.5
	2015	1389	57.2	8.6	57.2	9.7	22.4	1.3	0.8	61.6	53.2
Morocco	2011	1285	35.1	18.8	35.1	17.1	25.4	2.5	1.1	34.0	36.0
	2015	1885	36.1	11.8	36.1	15.5	33.5	2.6	0.5	39.1	33.3
New Zealand	2011	745	44.5	5.0	44.5	12.2	37.0	1.4	0.0	37.7	50.0
	2015	1184	45.3	4.9	45.3	12.5	35.7	0.8	0.8	40.1	50.9
Oman	2011	1363	38.5	7.9	38.5	10.2	42.1	0.9	0.5	44.5	32.2
	2015	1273	41.7	6.8	41.7	6.0	43.6	1.2	0.8	45.1	38.7
Qatar	2011	634	47.8	9.8	47.8	14.2	27.1	0.5	0.6	49.6	46.0
	2015	762	58.3	5.0	58.3	9.6	25.3	1.1	0.7	61.9	54.6
Russian Federation	2011	708	79.9	2.6	79.9	11.1	5.7	0.5	0.1	78.2	81.7
	2015	686	82.6	1.6	82.6	7.8	6.9	0.9	0.2	82.2	83.0
Saudi Arabia	2011	610	49.5	8.3	49.5	10.5	30.9	0.8	0.0	53.5	45.7
	2015	540	38.9	10.8	38.9	12.1	37.4	0.7	0.2	43.3	34.3
Singapore	2011	843	73.9	1.9	73.9	4.9	19.2	0.1	0.0	72.4	75.4
	2015	869	74.9	0.4	74.9	3.2	21.2	0.0	0.2	75.5	74.4
Slovenia	2011	621	70.9	2.0	70.9	10.3	16.0	0.7	0.0	67.5	74.4
	2015	612	65.7	2.4	65.7	10.7	20.2	1.0	0.0	64.5	66.8
South Africa	2011	1699	24.9	32.4	24.9	22.9	17.0	1.9	0.9	22.6	26.9
	2015	1794	34.0	28.2	34.0	17.3	16.0	2.6	1.9	35.6	32.3
Sweden	2011	775	50.8	9.9	50.8	12.2	24.7	2.2	0.2	49.8	51.7
	2015	588	48.4	6.1	48.4	10.9	29.2	4.6	0.8	45.9	51.1
Thailand	2011	886	45.4	16.5	45.4	13.6	22.3	2.0	0.2	48.5	41.7
	2015	928	43.7	22.2	43.7	10.0	21.6	2.0	0.4	44.7	42.6
Turkey	2011	988	50.4	9.7	50.4	12.1	26.4	1.2	0.2	50.4	50.4
	2015	868	53.7	8.1	53.7	9.1	28.2	0.4	0.5	56.9	50.8
United Arab Emirates	2011	2005	56.9	5.8	56.9	9.7	26.2	1.0	0.5	60.6	53.3
	2015	2588	56.3	5.3	56.3	10.1	26.6	1.3	0.4	58.3	54.4
United States	2011	1487	60.5	3.6	60.5	10.9	23.8	0.8	0.4	55.2	65.6
	2015	1463	64.9	2.4	64.9	9.5	21.2	1.1	1.0	64.1	65.7

International Avg (n=33)	2011	28503	59.2	7.1	59.2	10.4	21.9	1.1	0.3	59.2	59.0
	2015	31164	59.4	6.3	59.4	9.8	22.6	1.3	0.7	60.6	58.2

Ontario, Canada	2011	671	39.3	5.8	39.3	18.0	33.0	3.2	0.7	36.6	41.8
	2015	643	49.1	5.0	49.1	14.8	28.6	0.5	2.0	47.0	50.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_08 (S052299): Chemistry / Knowing Type: MC Key: B
Label: Process that makes statue dark

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	68.0	3.7	68.0	11.2	15.3	1.1	0.8	68.1	67.8
	2015	563	73.3	2.9	73.3	8.9	14.4	0.4	0.1	72.7	73.9
Norway (8)	2011	551	24.5	6.5	24.5	28.3	38.6	2.2	0.0	19.5	29.1
	2015	689	30.8	8.0	30.8	23.1	36.7	1.0	0.3	31.6	29.9
Abu Dhabi, UAE	2011	625	49.0	5.5	49.0	12.3	31.8	1.0	0.5	49.3	48.6
	2015	698	49.4	6.2	49.4	13.1	29.8	1.4	0.2	55.1	44.0
Dubai, UAE	2011	791	64.0	4.6	64.0	6.8	23.0	0.7	0.8	65.9	62.1
	2015	885	66.2	3.8	66.2	6.4	22.6	0.8	0.1	66.4	66.0
Florida, US	2011	242	59.9	3.0	59.9	10.1	25.6	1.4	0.0	51.0	70.1
	2015	301	60.6	3.0	60.6	8.9	24.1	1.8	1.6	57.3	63.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_09 (S052144): Physics / Knowing Type: MC Key: D
Label: Easy to compress gases

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	52.6	22.8	15.0	8.7	52.6	0.9	0.1	53.2	52.1
	2015	1450	56.8	19.8	14.2	7.2	56.8	1.3	0.7	59.7	53.9
Bahrain	2011	666	45.8	17.8	23.5	11.1	45.8	1.5	0.2	53.0	38.3
	2015	707	48.4	18.5	18.4	12.9	48.4	1.4	0.3	57.5	40.5
Botswana	2011	773	55.0	22.7	13.4	8.3	55.0	0.6	0.1	56.4	53.6
	2015	851	46.0	26.1	14.5	9.5	46.0	1.2	2.8	49.4	42.7
Chile	2011	831	47.7	19.0	18.1	12.7	47.7	1.7	0.8	44.4	51.3
	2015	676	30.2	29.4	24.0	12.4	30.2	2.6	1.4	32.5	28.3
Chinese Taipei	2011	716	32.6	38.7	21.5	7.2	32.6	0.0	0.0	29.5	35.6
	2015	810	29.3	43.4	19.8	7.2	29.3	0.2	0.2	27.4	31.0
England	2011	556	67.0	13.6	13.1	4.8	67.0	1.4	0.2	64.2	69.8
	2015	687	67.6	12.9	11.6	6.7	67.6	0.3	0.8	65.8	69.5
Georgia	2011	654	41.6	19.2	19.4	12.5	41.6	6.0	1.3	40.6	42.4
	2015	581	47.6	23.1	17.1	8.7	47.6	2.5	1.0	50.1	45.7
Hong Kong SAR	2011	575	57.1	24.7	11.4	6.1	57.1	0.7	0.0	54.3	59.8
	2015	590	63.8	18.5	11.0	6.1	63.8	0.6	0.0	63.2	64.2
Hungary	2011	736	49.1	19.4	17.9	12.9	49.1	0.7	0.0	52.6	46.1
	2015	691	51.7	17.5	18.0	11.2	51.7	1.1	0.5	47.9	55.2
Iran, Islamic Rep. of	2011	846	32.4	25.9	27.0	12.5	32.4	2.0	0.2	30.2	34.3
	2015	871	40.0	25.6	19.0	12.0	40.0	1.9	1.5	39.7	40.2
Israel	2011	674	71.6	13.2	8.9	5.1	71.6	0.7	0.5	74.1	69.1
	2015	790	65.9	12.8	10.8	7.9	65.9	1.4	1.2	68.0	64.0
Italy	2011	567	45.3	19.1	20.4	12.3	45.3	2.5	0.3	44.6	46.0
	2015	627	49.2	20.2	15.3	13.4	49.2	1.9	0.0	51.6	47.0
Japan	2011	630	31.6	37.6	18.3	11.9	31.6	0.7	0.0	32.9	30.4
	2015	671	32.1	39.2	16.4	11.8	32.1	0.4	0.0	27.9	36.4
Jordan	2011	1100	43.5	23.0	15.6	16.2	43.5	1.6	0.1	49.5	37.6
	2015	1122	42.8	22.6	15.9	16.2	42.8	1.6	0.9	49.1	36.0
Kazakhstan	2011	633	41.4	19.0	24.9	11.1	41.4	3.2	0.4	39.4	43.5
	2015	696	51.8	17.9	17.9	10.6	51.8	1.2	0.6	50.4	53.0
Korea, Rep. of	2011	736	48.8	22.1	17.1	12.1	48.8	0.0	0.0	46.7	51.0
	2015	749	38.2	35.2	17.7	8.8	38.2	0.0	0.0	33.4	42.8
Lebanon	2011	560	36.7	22.6	18.9	17.2	36.7	4.3	0.2	36.4	37.1
	2015	539	34.1	20.4	18.1	15.8	34.1	8.5	3.1	36.0	31.8
Lithuania	2011	671	46.3	25.9	18.0	8.0	46.3	1.6	0.3	46.6	46.0
	2015	619	55.0	19.4	18.2	6.2	55.0	1.0	0.2	58.4	51.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_09 (S052144): Physics / Knowing Type: MC Key: D
Label: Easy to compress gases

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	40.6	22.0	26.7	9.9	40.6	0.4	0.6	41.2	39.8
	2015	1389	39.3	18.6	32.3	7.1	39.3	1.2	1.5	39.0	39.7
Morocco	2011	1284	26.4	20.9	26.5	21.6	26.4	3.3	1.2	28.7	24.3
	2015	1885	32.1	18.6	23.9	21.4	32.1	3.1	0.9	33.5	30.7
New Zealand	2011	745	62.2	16.2	12.2	7.4	62.2	1.9	0.1	60.4	63.7
	2015	1184	62.7	15.8	13.6	5.9	62.7	1.0	1.0	62.2	63.3
Oman	2011	1363	43.4	17.9	21.0	14.9	43.4	2.2	0.6	51.9	34.4
	2015	1273	48.7	19.2	17.7	11.5	48.7	1.9	1.0	54.9	43.3
Qatar	2011	634	49.7	17.1	19.6	12.4	49.7	0.5	0.6	51.4	48.0
	2015	762	50.9	17.6	19.8	8.4	50.9	2.3	1.0	56.8	44.7
Russian Federation	2011	708	64.0	12.1	13.3	9.4	64.0	1.2	0.1	64.1	63.9
	2015	686	65.2	10.9	15.7	6.9	65.2	1.1	0.2	63.8	66.4
Saudi Arabia	2011	611	49.2	17.0	23.8	9.0	49.2	0.9	0.0	54.5	44.1
	2015	541	43.7	19.4	20.3	15.0	43.7	1.4	0.2	52.0	35.1
Singapore	2011	843	75.0	10.7	9.0	5.1	75.0	0.1	0.0	78.1	72.1
	2015	869	79.6	10.1	6.2	3.7	79.6	0.2	0.2	80.9	78.5
Slovenia	2011	621	53.7	27.8	6.6	10.2	53.7	1.4	0.3	55.9	51.4
	2015	612	63.9	19.8	5.6	9.7	63.9	1.1	0.0	65.2	62.6
South Africa	2011	1699	46.0	17.6	15.8	17.6	46.0	2.0	1.1	47.7	44.4
	2015	1794	42.9	22.8	14.2	14.9	42.9	3.1	2.1	47.8	37.9
Sweden	2011	775	40.7	20.2	17.3	17.9	40.7	3.5	0.4	40.1	41.3
	2015	588	51.5	13.8	16.7	13.2	51.5	3.8	1.0	51.7	51.2
Thailand	2011	886	27.9	43.6	10.5	16.4	27.9	1.2	0.4	27.6	28.1
	2015	928	27.9	43.3	12.0	15.0	27.9	1.2	0.6	29.0	26.6
Turkey	2011	988	55.3	25.7	11.9	6.3	55.3	0.6	0.2	54.9	55.7
	2015	868	50.3	28.9	12.1	7.5	50.3	0.6	0.6	52.4	48.4
United Arab Emirates	2011	2005	49.7	18.6	19.3	10.4	49.7	1.4	0.6	54.3	45.1
	2015	2588	54.6	14.3	19.0	10.6	54.6	1.2	0.4	57.9	51.3
United States	2011	1487	52.9	18.8	19.7	7.3	52.9	0.9	0.5	51.1	54.6
	2015	1463	55.9	18.5	17.9	5.4	55.9	1.3	1.1	55.9	55.9

International Avg (n=33)	2011	28498	48.0	21.6	17.4	11.1	48.0	1.6	0.3	48.8	47.1
	2015	31157	49.1	21.6	16.5	10.3	49.1	1.6	0.8	50.6	47.6

Ontario, Canada	2011	671	64.0	19.1	12.1	2.8	64.0	1.2	0.8	67.6	60.4
	2015	643	67.5	12.8	12.2	4.8	67.5	0.4	2.3	71.0	64.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_09 (S052144): Physics / Knowing Type: MC Key: D
Label: Easy to compress gases

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	43.0	18.3	23.8	11.8	43.0	2.4	0.8	44.1	41.7
	2015	562	48.5	24.8	18.5	7.1	48.5	1.0	0.1	48.6	48.4
Norway (8)	2011	551	42.0	24.6	16.7	13.3	42.0	3.2	0.2	48.2	36.1
	2015	689	35.2	22.8	21.6	16.6	35.2	3.4	0.4	39.6	31.3
Abu Dhabi, UAE	2011	625	47.2	17.9	23.0	9.4	47.2	2.0	0.5	48.4	46.1
	2015	698	49.6	16.0	20.4	12.4	49.6	1.3	0.4	56.0	43.5
Dubai, UAE	2011	791	55.0	21.5	13.2	8.3	55.0	1.2	0.9	61.0	49.1
	2015	885	64.8	11.9	15.3	7.1	64.8	0.8	0.1	65.3	64.3
Florida, US	2011	242	66.2	12.8	12.1	7.7	66.2	1.0	0.4	59.2	74.1
	2015	301	66.0	13.5	12.2	4.2	66.0	2.0	2.1	67.6	64.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_10 (S052214): Physics / Reasoning Type: CR 1 Point
Label: Recognize liquids from density

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	47.8	47.9	4.2	0.1	47.8	46.3	49.2
	2015	1450	42.8	52.5	4.0	0.7	42.8	41.7	43.9
Bahrain	2011	666	33.3	58.5	7.9	0.2	33.3	36.4	30.2
	2015	705	27.7	64.7	7.2	0.4	27.7	26.2	29.0
Botswana	2011	773	15.2	82.8	1.9	0.1	15.2	14.0	16.5
	2015	852	18.5	75.5	2.5	3.5	18.5	20.3	16.7
Chile	2011	831	31.9	53.6	13.6	0.9	31.9	29.4	34.7
	2015	676	26.1	51.3	20.9	1.8	26.1	23.1	28.7
Chinese Taipei	2011	716	58.9	34.9	6.2	0.0	58.9	57.2	60.7
	2015	810	63.7	31.6	4.5	0.2	63.7	64.8	62.7
England	2011	556	46.2	50.0	3.7	0.2	46.2	41.6	50.7
	2015	687	49.9	46.8	2.5	0.8	49.9	46.2	53.9
Georgia	2011	652	33.2	44.6	20.5	1.7	33.2	33.1	33.4
	2015	581	39.8	43.4	15.8	1.0	39.8	34.0	44.3
Hong Kong SAR	2011	575	58.5	39.3	2.2	0.0	58.5	57.9	59.1
	2015	590	62.1	36.7	1.2	0.0	62.1	63.1	61.3
Hungary	2011	736	56.0	41.8	2.3	0.0	56.0	54.1	57.7
	2015	691	58.4	38.0	3.1	0.5	58.4	52.8	63.4
Iran, Islamic Rep. of	2011	846	21.0	67.3	11.5	0.2	21.0	20.8	21.2
	2015	871	28.9	57.4	12.2	1.5	28.9	28.7	29.0
Israel	2011	674	46.1	46.6	6.7	0.6	46.1	41.1	51.1
	2015	790	47.4	43.1	8.2	1.4	47.4	47.7	47.1
Italy	2011	567	46.0	43.1	10.6	0.3	46.0	46.7	45.3
	2015	627	42.8	47.9	9.2	0.1	42.8	36.7	48.1
Japan	2011	630	58.8	36.5	4.7	0.0	58.8	59.1	58.6
	2015	671	66.5	30.3	3.2	0.0	66.5	68.1	64.7
Jordan	2011	1100	23.4	72.8	3.8	0.1	23.4	22.9	23.9
	2015	1122	25.2	67.6	6.2	0.9	25.2	23.3	27.2
Kazakhstan	2011	633	37.3	53.3	8.1	1.2	37.3	36.3	38.3
	2015	696	54.0	39.3	6.0	0.7	54.0	56.2	52.1
Korea, Rep. of	2011	736	73.6	24.8	1.5	0.0	73.6	70.6	76.8
	2015	749	71.2	26.1	2.6	0.0	71.2	74.6	68.1
Lebanon	2011	568	28.4	62.1	9.1	0.4	28.4	26.9	30.1
	2015	551	26.8	56.9	13.0	3.2	26.8	30.8	21.9
Lithuania	2011	671	50.3	46.8	2.6	0.3	50.3	49.9	50.8
	2015	619	52.4	45.7	1.8	0.2	52.4	52.1	52.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_10 (S052214): Physics / Reasoning Type: CR 1 Point
Label: Recognize liquids from density

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	32.2	59.1	8.1	0.6	32.2	34.3	30.0
	2015	1389	42.2	52.1	4.1	1.5	42.2	40.5	43.8
Morocco	2011	1290	16.2	70.0	12.4	1.4	16.2	16.2	16.2
	2015	1885	11.3	77.8	9.8	1.1	11.3	13.0	9.8
New Zealand	2011	745	45.9	51.0	3.0	0.1	45.9	39.7	51.0
	2015	1184	46.5	49.4	2.8	1.4	46.5	44.4	48.8
Oman	2011	1363	22.5	69.0	7.9	0.6	22.5	25.9	18.9
	2015	1273	31.5	63.0	4.5	1.1	31.5	31.4	31.5
Qatar	2011	634	31.1	58.3	10.0	0.6	31.1	31.0	31.1
	2015	762	32.7	61.5	4.9	1.0	32.7	34.1	31.2
Russian Federation	2011	708	62.2	33.1	4.2	0.5	62.2	61.3	63.2
	2015	686	66.5	28.6	4.7	0.2	66.5	66.6	66.4
Saudi Arabia	2011	611	21.6	72.4	6.0	0.0	21.6	21.1	22.0
	2015	542	22.0	68.4	9.4	0.2	22.0	25.8	18.2
Singapore	2011	843	66.1	33.0	0.8	0.0	66.1	64.3	67.9
	2015	869	70.0	29.5	0.3	0.2	70.0	68.4	71.5
Slovenia	2011	621	66.2	31.0	2.5	0.3	66.2	64.1	68.5
	2015	612	65.0	32.5	2.5	0.0	65.0	64.7	65.2
South Africa	2011	1699	10.8	81.2	6.7	1.2	10.8	9.2	12.4
	2015	1794	15.3	78.5	4.0	2.1	15.3	13.6	17.0
Sweden	2011	775	50.5	40.6	8.5	0.4	50.5	52.8	48.5
	2015	589	54.2	38.8	5.4	1.7	54.2	53.7	54.7
Thailand	2011	886	26.3	60.1	13.2	0.4	26.3	26.5	26.0
	2015	928	27.0	62.2	10.1	0.7	27.0	24.5	29.9
Turkey	2011	988	38.8	47.1	13.8	0.2	38.8	39.4	38.2
	2015	868	41.2	49.2	8.8	0.8	41.2	44.1	38.6
United Arab Emirates	2011	2006	36.3	59.0	4.1	0.7	36.3	36.0	36.6
	2015	2588	37.8	56.0	5.6	0.6	37.8	39.1	36.5
United States	2011	1487	53.3	44.2	1.9	0.5	53.3	51.3	55.3
	2015	1463	55.4	41.3	2.1	1.1	55.4	52.8	58.3
International Avg (n=33)	2011	28511	40.8	52.0	6.8	0.4	40.8	39.9	41.6
	2015	31170	43.1	49.8	6.2	0.9	43.1	42.6	43.5
Ontario, Canada	2011	671	59.7	35.6	3.9	0.8	59.7	61.0	58.4
	2015	643	55.4	38.9	3.3	2.3	55.4	53.4	57.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_10 (S052214): Physics / Reasoning Type: CR 1 Point
Label: Recognize liquids from density

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	871	52.2	42.5	4.5	0.8	52.2	51.1	53.4
	2015	568	53.0	40.9	6.0	0.1	53.0	47.4	58.8
Norway (8)	2011	551	49.9	42.9	6.9	0.2	49.9	50.7	49.3
	2015	689	49.6	42.8	7.1	0.4	49.6	49.7	49.3
Abu Dhabi, UAE	2011	625	29.5	65.1	4.9	0.5	29.5	28.8	30.1
	2015	698	31.6	61.9	5.8	0.8	31.6	33.8	29.4
Dubai, UAE	2011	791	44.6	50.0	4.5	0.9	44.6	46.8	42.4
	2015	885	51.4	44.6	3.9	0.1	51.4	50.3	52.5
Florida, US	2011	242	57.0	40.3	2.2	0.4	57.0	52.6	62.0
	2015	301	48.8	44.4	4.4	2.4	48.8	46.5	50.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_12 (S052101): Earth Science / Reasoning Type: CR 1 Point
Label: Information from volcanic eruption

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	40.8	46.7	12.5	0.1	40.8	34.8	46.4
	2015	1450	46.4	44.1	8.5	1.0	46.4	45.6	47.2
Bahrain	2011	666	35.2	42.5	21.8	0.5	35.2	44.5	25.6
	2015	705	35.5	45.3	18.6	0.7	35.5	44.2	27.9
Botswana	2011	773	19.0	65.5	15.0	0.4	19.0	20.3	17.7
	2015	852	21.4	64.9	8.3	5.4	21.4	21.2	21.5
Chile	2011	830	40.3	31.3	26.8	1.5	40.3	36.9	44.1
	2015	676	23.1	40.9	33.9	2.1	23.1	23.1	23.2
Chinese Taipei	2011	716	54.5	35.0	10.4	0.1	54.5	53.0	55.9
	2015	810	45.0	44.2	10.6	0.2	45.0	48.2	42.1
England	2011	556	48.4	39.4	11.9	0.3	48.4	45.7	51.0
	2015	687	47.3	42.0	9.7	1.1	47.3	44.4	50.3
Georgia	2011	647	14.3	37.7	45.6	2.4	14.3	17.1	11.8
	2015	581	21.6	36.5	40.2	1.6	21.6	22.2	21.2
Hong Kong SAR	2011	575	27.4	63.1	9.5	0.0	27.4	28.2	26.7
	2015	590	22.7	70.0	7.3	0.0	22.7	23.8	21.7
Hungary	2011	736	29.8	42.9	27.3	0.0	29.8	28.1	31.3
	2015	691	30.1	46.2	23.1	0.6	30.1	28.8	31.3
Iran, Islamic Rep. of	2011	846	30.1	50.9	18.8	0.2	30.1	29.0	31.0
	2015	871	27.3	44.0	25.3	3.4	27.3	30.9	24.1
Israel	2011	674	49.0	30.8	19.3	0.9	49.0	47.0	51.0
	2015	790	42.2	32.8	23.1	1.9	42.2	39.9	44.2
Italy	2011	567	26.2	41.6	31.9	0.3	26.2	27.8	24.7
	2015	626	24.6	43.9	30.6	0.9	24.6	28.3	21.3
Japan	2011	630	54.6	30.1	15.3	0.0	54.6	56.5	52.9
	2015	671	55.9	31.4	12.7	0.0	55.9	53.8	58.0
Jordan	2011	1100	39.5	47.0	13.3	0.2	39.5	44.5	34.4
	2015	1122	39.2	40.3	19.3	1.2	39.2	46.1	31.9
Kazakhstan	2011	632	30.9	37.5	29.5	2.2	30.9	29.1	32.7
	2015	696	29.5	50.6	18.6	1.2	29.5	31.7	27.7
Korea, Rep. of	2011	736	44.8	48.4	6.8	0.0	44.8	43.4	46.2
	2015	749	42.8	48.3	8.9	0.0	42.8	43.5	42.1
Lebanon	2011	568	21.4	26.4	50.8	1.4	21.4	21.4	21.4
	2015	550	7.2	28.2	60.6	4.0	7.2	7.8	6.4
Lithuania	2011	671	34.3	46.9	18.5	0.3	34.3	38.4	29.5
	2015	619	35.7	48.3	15.7	0.2	35.7	32.3	39.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_12 (S052101): Earth Science / Reasoning Type: CR 1 Point
Label: Information from volcanic eruption

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	19.0	57.9	22.0	1.1	19.0	18.7	19.4
	2015	1389	19.2	58.0	20.1	2.6	19.2	18.4	20.0
Morocco	2011	1290	20.5	39.6	37.6	2.4	20.5	18.8	22.0
	2015	1878	16.4	47.9	34.0	1.6	16.4	19.8	13.0
New Zealand	2011	745	43.9	42.3	13.5	0.2	43.9	41.2	46.2
	2015	1184	43.1	43.4	11.9	1.7	43.1	41.4	44.9
Oman	2011	1363	35.8	39.1	24.5	0.7	35.8	44.9	26.1
	2015	1270	36.2	48.4	14.2	1.2	36.2	43.3	30.0
Qatar	2011	634	28.5	46.4	23.4	1.7	28.5	29.8	27.3
	2015	762	34.4	45.0	19.0	1.6	34.4	39.4	29.1
Russian Federation	2011	708	26.9	45.8	26.6	0.7	26.9	28.4	25.3
	2015	686	34.4	37.9	26.4	1.2	34.4	35.6	33.4
Saudi Arabia	2011	611	40.8	47.2	12.0	0.0	40.8	47.2	34.5
	2015	542	33.6	42.3	23.6	0.5	33.6	39.5	27.4
Singapore	2011	843	65.2	30.4	4.4	0.0	65.2	68.6	62.0
	2015	869	40.6	54.9	4.2	0.3	40.6	39.2	41.9
Slovenia	2011	621	64.5	23.8	11.3	0.4	64.5	64.1	64.9
	2015	612	47.3	41.5	11.1	0.1	47.3	49.8	44.9
South Africa	2011	1699	18.2	51.4	27.6	2.8	18.2	18.2	18.2
	2015	1794	16.0	61.8	18.8	3.4	16.0	17.7	14.3
Sweden	2011	775	37.1	38.7	23.7	0.5	37.1	36.7	37.4
	2015	589	33.0	38.5	26.5	1.9	33.0	34.8	31.0
Thailand	2011	886	44.7	32.2	22.4	0.8	44.7	48.5	40.1
	2015	928	27.4	53.5	17.9	1.2	27.4	28.9	25.6
Turkey	2011	988	26.4	44.8	28.4	0.4	26.4	21.3	31.5
	2015	868	30.8	45.5	22.1	1.5	30.8	31.7	30.1
United Arab Emirates	2011	2006	33.1	52.9	13.1	0.9	33.1	37.7	28.6
	2015	2588	37.3	47.1	14.6	1.0	37.3	39.6	35.1
United States	2011	1487	46.4	47.7	5.1	0.7	46.4	43.7	49.1
	2015	1463	41.6	53.0	3.5	1.9	41.6	40.7	42.5
International Avg (n=33)	2011	28504	36.1	42.5	20.6	0.7	36.1	36.8	35.4
	2015	31158	33.0	46.1	19.5	1.4	33.0	34.4	31.7
Ontario, Canada	2011	671	50.2	36.5	12.1	1.1	50.2	48.4	52.0
	2015	643	42.3	45.0	9.2	3.6	42.3	43.8	41.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_12 (S052101): Earth Science / Reasoning Type: CR 1 Point
Label: Information from volcanic eruption

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	37.8	47.9	13.0	1.3	37.8	34.0	42.2
	2015	568	44.5	43.9	9.8	1.8	44.5	46.8	42.2
Norway (8)	2011	551	35.5	50.4	13.9	0.2	35.5	34.5	36.4
	2015	689	27.0	57.8	14.2	1.0	27.0	28.8	25.4
Abu Dhabi, UAE	2011	625	29.6	57.5	12.2	0.7	29.6	31.1	28.3
	2015	698	27.8	55.1	15.6	1.6	27.8	28.5	27.0
Dubai, UAE	2011	791	37.4	47.5	13.6	1.5	37.4	45.0	29.9
	2015	885	48.9	38.9	11.8	0.4	48.9	50.1	47.5
Florida, US	2011	242	45.3	46.9	7.4	0.4	45.3	44.1	46.8
	2015	301	40.3	50.5	6.4	2.8	40.3	37.6	42.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S09_l3 (S052113): Earth Science / Applying Type: MC Key: A
Label: Climate of city near Equator

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	67.1	67.1	13.5	10.4	8.3	0.6	0.1	65.0	69.1
	2015	1450	58.3	58.3	15.9	13.2	9.9	1.5	1.2	61.3	55.2
Bahrain	2011	666	44.0	44.0	23.5	17.2	12.5	2.0	0.7	49.4	38.5
	2015	707	37.5	37.5	28.1	19.4	12.8	1.2	0.9	38.1	37.0
Botswana	2011	773	31.6	31.6	27.4	18.2	21.6	0.4	0.7	31.5	31.7
	2015	852	29.3	29.3	28.8	15.9	18.9	1.3	5.8	28.2	30.3
Chile	2011	831	49.6	49.6	21.9	15.4	7.4	3.9	1.8	43.7	56.0
	2015	676	44.9	44.9	25.5	15.4	9.0	3.1	2.1	43.2	46.4
Chinese Taipei	2011	716	79.6	79.6	8.5	3.9	7.7	0.2	0.1	76.6	82.5
	2015	810	74.9	74.9	10.3	3.9	10.2	0.5	0.2	74.4	75.3
England	2011	556	72.1	72.1	14.7	5.3	6.9	0.5	0.5	71.8	72.3
	2015	687	67.9	67.9	14.0	8.8	7.4	0.8	1.1	64.9	70.9
Georgia	2011	652	38.8	38.8	21.3	15.6	15.7	4.9	3.7	39.2	38.3
	2015	581	42.3	42.3	22.0	16.0	14.2	2.0	3.5	41.3	43.0
Hong Kong SAR	2011	574	66.3	66.3	10.8	8.2	14.3	0.4	0.0	60.7	71.6
	2015	590	72.8	72.8	10.5	7.8	8.5	0.3	0.0	67.7	77.0
Hungary	2011	736	63.5	63.5	16.6	7.2	11.6	1.0	0.0	62.2	64.7
	2015	691	61.5	61.5	18.3	8.7	10.2	0.7	0.6	58.9	63.9
Iran, Islamic Rep. of	2011	846	34.8	34.8	28.4	21.0	14.2	1.1	0.5	30.2	38.7
	2015	871	38.4	38.4	25.5	15.6	14.0	2.6	3.8	39.1	37.8
Israel	2011	674	51.2	51.2	22.0	10.7	14.1	1.1	0.9	49.5	52.9
	2015	790	48.4	48.4	19.4	13.5	14.9	1.4	2.5	46.4	50.1
Italy	2011	567	67.7	67.7	12.5	5.7	12.5	1.3	0.3	68.7	66.7
	2015	627	56.8	56.8	21.2	7.3	10.7	2.6	1.5	57.6	56.1
Japan	2011	630	73.1	73.1	11.9	6.1	8.0	0.8	0.0	74.6	71.9
	2015	671	83.3	83.3	8.8	4.1	3.0	0.6	0.3	84.1	82.4
Jordan	2011	1100	46.2	46.2	24.1	17.3	10.7	1.3	0.5	44.2	48.1
	2015	1122	44.5	44.5	22.6	16.2	13.1	2.1	1.4	43.7	45.4
Kazakhstan	2011	633	43.2	43.2	22.6	13.6	16.6	1.4	2.6	41.4	45.1
	2015	696	56.0	56.0	16.1	10.9	14.7	1.2	1.2	54.1	57.7
Korea, Rep. of	2011	736	62.1	62.1	17.3	8.2	12.4	0.0	0.0	59.7	64.5
	2015	749	67.1	67.1	15.5	7.7	9.5	0.2	0.0	62.9	71.0
Lebanon	2011	565	44.0	44.0	21.9	15.5	12.1	4.7	1.8	40.9	47.3
	2015	551	38.9	38.9	25.5	15.1	7.9	7.5	5.2	35.6	43.1
Lithuania	2011	671	53.5	53.5	25.0	8.4	11.0	1.7	0.4	52.5	54.7
	2015	619	56.2	56.2	22.8	8.8	11.8	0.1	0.2	56.5	56.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S09_l3 (S052113): Earth Science / Applying Type: MC Key: A
Label: Climate of city near Equator

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	34.0	34.0	33.2	13.7	17.7	0.1	1.3	29.2	39.1
	2015	1389	39.7	39.7	32.4	12.5	12.0	0.3	3.1	39.1	40.1
Morocco	2011	1289	32.7	32.7	29.3	21.2	11.0	2.9	2.9	31.2	34.2
	2015	1887	33.3	33.3	31.1	16.9	13.4	3.0	2.3	32.4	34.2
New Zealand	2011	745	57.5	57.5	15.6	13.4	9.1	3.7	0.5	50.5	63.3
	2015	1184	55.4	55.4	18.7	11.1	9.9	2.9	2.1	52.2	58.8
Oman	2011	1363	35.1	35.1	31.8	20.1	10.3	1.6	1.1	34.0	36.3
	2015	1273	40.1	40.1	27.7	19.2	9.9	1.6	1.5	37.4	42.5
Qatar	2011	634	44.9	44.9	22.3	16.6	13.2	1.1	2.0	48.6	41.2
	2015	762	48.4	48.4	22.4	14.4	10.8	2.1	1.8	51.6	45.0
Russian Federation	2011	708	58.6	58.6	15.0	8.6	14.8	1.9	1.1	55.6	61.8
	2015	686	56.1	56.1	16.9	8.8	14.9	2.0	1.3	51.3	60.2
Saudi Arabia	2011	610	39.1	39.1	27.8	20.2	12.2	0.7	0.0	40.5	37.8
	2015	541	35.1	35.1	26.4	23.9	13.5	0.5	0.6	35.5	34.6
Singapore	2011	843	76.4	76.4	10.4	6.2	6.8	0.2	0.0	75.0	77.7
	2015	869	77.2	77.2	10.4	5.9	6.3	0.0	0.3	76.9	77.4
Slovenia	2011	621	67.4	67.4	13.4	5.0	12.8	0.9	0.4	63.5	71.5
	2015	612	65.5	65.5	14.5	6.5	12.7	0.8	0.1	60.3	70.2
South Africa	2011	1699	37.1	37.1	22.4	23.3	11.8	2.3	3.1	32.8	41.1
	2015	1794	42.3	42.3	23.9	18.0	10.2	2.2	3.5	42.2	42.3
Sweden	2011	775	68.3	68.3	14.1	9.1	5.2	2.6	0.7	70.7	66.2
	2015	589	64.4	64.4	13.1	6.7	9.7	3.3	3.0	66.0	62.5
Thailand	2011	886	30.2	30.2	32.1	12.6	22.7	1.7	0.8	29.9	30.5
	2015	928	33.7	33.7	30.4	11.4	21.2	2.1	1.2	32.5	35.1
Turkey	2011	987	50.8	50.8	21.7	11.8	14.4	0.7	0.5	50.3	51.4
	2015	868	43.2	43.2	20.8	15.9	18.2	0.2	1.6	40.2	46.0
United Arab Emirates	2011	2006	49.3	49.3	21.7	14.2	12.6	1.1	1.0	49.3	49.3
	2015	2588	50.6	50.6	21.2	13.6	12.2	1.2	1.1	54.2	47.2
United States	2011	1487	63.5	63.5	15.1	9.0	10.7	1.0	0.8	61.4	65.4
	2015	1463	63.9	63.9	13.9	8.2	11.2	0.7	2.0	62.5	65.4

International Avg (n=33)	2011	28504	52.5	52.5	20.3	12.5	12.2	1.5	0.9	51.0	54.0
	2015	31173	52.4	52.4	20.4	12.2	11.7	1.6	1.7	51.3	53.3

Ontario, Canada	2011	671	72.4	72.4	9.5	7.5	7.6	1.7	1.3	76.7	68.4
	2015	643	70.0	70.0	11.9	5.0	8.0	0.9	4.2	67.5	72.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_13 (S052113): Earth Science / Applying Type: MC Key: A
Label: Climate of city near Equator

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	64.9	64.9	11.9	7.7	12.7	1.3	1.5	61.4	68.9
	2015	565	71.6	71.6	10.7	5.0	10.7	1.2	0.8	70.7	72.5
Norway (8)	2011	551	65.9	65.9	12.1	8.7	10.2	2.8	0.2	63.1	68.5
	2015	689	60.4	60.4	14.7	10.3	11.2	2.3	1.3	57.3	63.3
Abu Dhabi, UAE	2011	625	45.4	45.4	23.0	15.8	12.7	2.1	0.9	46.1	44.7
	2015	698	47.2	47.2	24.6	14.3	11.5	0.7	1.6	53.0	41.8
Dubai, UAE	2011	791	61.0	61.0	15.3	9.9	10.9	1.2	1.6	63.7	58.4
	2015	885	57.6	57.6	16.9	9.5	14.3	1.1	0.6	57.1	58.2
Florida, US	2011	242	52.2	52.2	20.6	12.2	13.7	0.8	0.4	46.8	58.4
	2015	301	51.7	51.7	18.1	11.7	14.3	1.3	2.8	50.2	53.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_14 (S052107): Earth Science / Applying Type: MC Key: C
Label: Constellation below horizon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1106	39.6	35.4	12.8	39.6	11.5	0.6	0.1	32.9	45.8
	2015	1450	38.1	30.4	15.8	38.1	12.6	1.6	1.5	37.3	39.0
Bahrain	2011	666	22.0	30.0	19.6	22.0	25.8	1.7	1.0	16.3	27.8
	2015	707	19.6	31.1	19.4	19.6	27.4	1.5	0.9	16.7	22.2
Botswana	2011	773	10.2	38.2	24.4	10.2	25.2	1.2	0.9	9.6	10.8
	2015	852	13.1	29.5	17.5	13.1	30.2	2.8	6.9	13.7	12.6
Chile	2011	831	24.3	24.9	30.8	24.3	16.4	1.6	2.0	18.4	30.7
	2015	676	23.9	25.7	28.7	23.9	17.1	2.5	2.1	23.5	24.3
Chinese Taipei	2011	716	61.7	13.3	14.7	61.7	9.1	1.1	0.1	59.5	63.8
	2015	810	64.7	11.7	13.0	64.7	9.5	0.9	0.2	63.7	65.7
England	2011	556	31.6	35.1	14.3	31.6	17.1	1.4	0.5	27.9	35.2
	2015	687	34.4	33.4	13.7	34.4	15.6	1.5	1.3	32.5	36.5
Georgia	2011	653	18.1	27.2	27.5	18.1	19.4	3.9	3.9	15.4	20.6
	2015	581	23.4	21.7	29.6	23.4	18.7	2.8	3.8	14.3	30.5
Hong Kong SAR	2011	575	46.7	20.0	16.0	46.7	17.1	0.2	0.0	44.2	49.1
	2015	590	50.7	19.8	15.6	50.7	13.5	0.4	0.0	46.8	53.9
Hungary	2011	736	38.6	27.7	15.9	38.6	17.1	0.7	0.0	33.0	43.6
	2015	691	39.4	22.8	19.5	39.4	16.4	1.2	0.6	36.8	41.8
Iran, Islamic Rep. of	2011	846	30.9	23.2	19.0	30.9	24.2	2.0	0.8	29.4	32.1
	2015	872	21.8	20.1	22.5	21.8	27.9	3.5	4.1	19.0	24.4
Israel	2011	674	31.3	26.0	18.8	31.3	21.4	1.6	0.9	28.4	34.1
	2015	790	32.3	24.4	19.3	32.3	19.9	1.7	2.5	31.6	32.9
Italy	2011	567	41.9	26.9	10.6	41.9	19.3	1.0	0.3	40.9	42.7
	2015	627	37.2	23.1	13.6	37.2	21.7	2.3	2.0	37.6	37.0
Japan	2011	630	67.5	11.8	10.8	67.5	9.3	0.6	0.0	69.4	65.9
	2015	671	69.1	10.6	10.6	69.1	9.3	0.1	0.3	67.0	71.3
Jordan	2011	1100	18.6	29.1	18.9	18.6	32.0	0.8	0.6	15.0	22.1
	2015	1122	21.8	28.2	13.4	21.8	33.5	1.5	1.5	21.0	22.6
Kazakhstan	2011	633	27.6	23.9	24.4	27.6	19.7	1.8	2.6	23.5	32.0
	2015	696	43.4	25.2	17.2	43.4	11.1	1.9	1.2	43.9	42.9
Korea, Rep. of	2011	736	68.1	15.8	5.2	68.1	10.9	0.0	0.0	65.9	70.3
	2015	749	53.7	24.5	8.0	53.7	13.6	0.2	0.0	49.4	57.8
Lebanon	2011	564	19.2	24.7	23.2	19.2	25.5	5.6	1.8	16.0	22.6
	2015	539	20.7	25.2	19.8	20.7	20.8	7.7	5.7	18.8	23.0
Lithuania	2011	671	38.5	24.1	16.2	38.5	19.4	1.3	0.4	35.8	41.6
	2015	619	31.5	27.3	16.8	31.5	22.6	1.5	0.2	30.3	32.8

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S09_14 (S052107): Earth Science / Applying Type: MC Key: C
Label: Constellation below horizon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	819	31.9	16.6	32.4	31.9	17.2	0.7	1.3	32.0	31.7
	2015	1389	29.8	16.1	37.5	29.8	12.4	1.1	3.1	27.8	31.7
Morocco	2011	1285	18.7	25.7	17.5	18.7	33.2	1.6	3.3	16.7	20.5
	2015	1877	18.8	24.8	15.6	18.8	35.3	3.0	2.4	17.9	19.7
New Zealand	2011	745	42.1	32.2	12.5	42.1	12.1	0.4	0.7	38.5	45.0
	2015	1184	39.0	30.7	14.8	39.0	12.0	1.0	2.5	33.6	44.8
Oman	2011	1363	20.2	31.3	17.8	20.2	26.9	2.7	1.1	22.6	17.8
	2015	1273	22.8	32.3	15.0	22.8	25.6	2.8	1.6	20.9	24.5
Qatar	2011	634	20.2	32.7	19.1	20.2	25.0	1.1	2.0	19.2	21.2
	2015	762	22.3	35.4	20.1	22.3	18.4	1.7	2.1	22.0	22.5
Russian Federation	2011	708	42.5	15.8	20.4	42.5	18.1	1.9	1.3	37.7	47.7
	2015	686	47.0	17.1	18.8	47.0	13.9	1.7	1.4	45.1	48.6
Saudi Arabia	2011	611	19.8	41.3	13.9	19.8	24.1	0.8	0.0	16.0	23.6
	2015	541	18.2	32.5	21.4	18.2	26.2	1.2	0.6	16.0	20.5
Singapore	2011	843	33.7	28.9	14.3	33.7	22.7	0.3	0.0	30.9	36.3
	2015	869	33.2	34.4	15.7	33.2	16.0	0.2	0.3	28.2	38.0
Slovenia	2011	621	32.0	23.8	27.8	32.0	14.5	1.2	0.8	27.0	37.2
	2015	612	43.5	22.5	22.1	43.5	11.2	0.7	0.1	43.0	43.9
South Africa	2011	1699	13.2	31.0	26.4	13.2	23.6	2.4	3.5	13.4	12.8
	2015	1794	14.3	29.8	27.6	14.3	23.1	1.5	3.7	14.0	14.7
Sweden	2011	775	42.1	26.9	14.0	42.1	14.9	1.4	0.7	38.6	45.2
	2015	588	44.0	22.4	13.0	44.0	14.3	3.2	3.1	40.3	48.0
Thailand	2011	886	14.0	41.4	23.2	14.0	19.0	1.4	1.1	12.5	15.9
	2015	927	13.6	37.6	26.4	13.6	20.2	0.9	1.3	11.1	16.5
Turkey	2011	988	25.1	27.1	14.9	25.1	31.0	1.4	0.5	22.5	27.7
	2015	868	25.6	24.2	15.1	25.6	32.8	0.6	1.6	25.2	26.1
United Arab Emirates	2011	2006	20.4	36.3	16.7	20.4	23.9	1.7	1.0	19.7	21.0
	2015	2588	23.9	33.8	19.6	23.9	19.9	1.6	1.2	22.3	25.4
United States	2011	1487	33.3	35.2	13.4	33.3	16.2	1.1	0.9	31.2	35.4
	2015	1463	37.6	32.4	11.1	37.6	15.4	1.3	2.1	33.7	41.7
International Avg (n=33)	2011	28503	31.7	27.4	18.4	31.7	20.1	1.4	1.0	29.1	34.2
	2015	31150	32.5	26.1	18.4	32.5	19.3	1.8	1.9	30.4	34.5
Ontario, Canada	2011	671	40.7	30.2	11.9	40.7	13.1	2.8	1.3	41.1	40.2
	2015	643	40.2	26.7	12.8	40.2	14.1	1.7	4.5	38.5	41.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S09_14 (S052107): Earth Science / Applying Type: MC Key: C
Label: Constellation below horizon

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	872	39.2	26.8	14.0	39.2	18.1	0.4	1.5	37.3	41.3
	2015	563	43.6	20.8	14.4	43.6	20.2	0.1	0.9	42.8	44.4
Norway (8)	2011	551	37.0	30.1	18.2	37.0	12.8	1.8	0.2	36.6	37.3
	2015	689	41.1	26.5	13.9	41.1	14.8	2.4	1.3	39.4	42.5
Abu Dhabi, UAE	2011	625	18.0	35.6	15.1	18.0	28.6	1.8	0.9	17.9	18.1
	2015	698	24.3	31.1	17.8	24.3	23.4	1.7	1.6	23.0	25.6
Dubai, UAE	2011	791	26.7	34.2	17.1	26.7	18.4	1.9	1.7	21.1	32.3
	2015	885	25.3	37.6	19.1	25.3	16.4	0.8	0.8	24.2	26.5
Florida, US	2011	242	37.6	29.8	15.3	37.6	16.1	0.8	0.4	31.5	44.4
	2015	301	31.7	36.5	15.9	31.7	12.4	0.3	3.1	33.3	30.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_01A (S052090A): Biology / Knowing Type: MC Key: A
Label: Influenza: Cause

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	61.7	61.7	2.4	32.3	3.2	0.2	0.2	56.4	67.4
	2015	1479	54.4	54.4	2.9	38.1	2.7	1.8	0.1	52.4	56.5
Bahrain	2011	652	75.1	75.1	1.7	19.0	3.2	0.9	0.2	80.0	70.0
	2015	693	68.8	68.8	4.5	22.1	3.0	1.5	0.0	73.8	64.3
Botswana	2011	767	40.2	40.2	18.2	35.7	5.3	0.6	0.0	43.5	36.6
	2015	855	39.1	39.1	14.6	38.9	6.4	1.0	0.0	40.4	37.7
Chile	2011	825	82.1	82.1	0.5	15.9	0.4	0.9	0.2	83.7	80.1
	2015	702	78.5	78.5	1.5	18.1	0.3	1.6	0.0	80.7	76.6
Chinese Taipei	2011	715	77.2	77.2	2.1	19.6	1.0	0.1	0.0	78.4	76.1
	2015	819	79.1	79.1	1.0	19.2	0.5	0.0	0.2	84.1	74.6
England	2011	549	65.3	65.3	2.9	29.0	1.5	1.2	0.1	66.4	64.4
	2015	694	64.1	64.1	3.1	30.3	1.8	0.7	0.0	64.6	63.6
Georgia	2011	657	82.9	82.9	0.6	15.1	0.1	1.4	0.0	84.6	81.0
	2015	575	72.3	72.3	0.2	25.8	0.0	1.8	0.0	71.3	73.0
Hong Kong SAR	2011	570	56.3	56.3	3.5	37.6	1.2	1.1	0.3	57.6	55.0
	2015	583	51.4	51.4	3.9	42.7	0.5	1.4	0.0	52.6	50.2
Hungary	2011	739	79.6	79.6	0.4	19.0	0.4	0.6	0.0	76.1	83.1
	2015	706	71.9	71.9	0.0	26.6	0.4	1.0	0.0	69.1	74.9
Iran, Islamic Rep. of	2011	860	84.6	84.6	3.1	8.8	1.9	1.4	0.2	87.2	82.5
	2015	863	85.4	85.4	2.0	10.5	1.2	0.9	0.0	87.2	83.8
Israel	2011	679	70.2	70.2	1.1	26.3	1.2	0.9	0.3	69.2	71.1
	2015	796	65.9	65.9	2.6	27.5	2.0	1.6	0.4	65.2	66.7
Italy	2011	562	71.7	71.7	0.2	26.7	0.5	0.9	0.0	69.9	73.4
	2015	640	71.4	71.4	0.2	27.5	0.3	0.6	0.0	70.6	72.2
Japan	2011	637	94.6	94.6	0.0	5.2	0.1	0.0	0.0	95.4	93.8
	2015	684	94.7	94.7	0.2	5.0	0.1	0.0	0.0	94.9	94.6
Jordan	2011	1080	84.1	84.1	2.2	10.3	2.0	1.3	0.1	88.4	80.0
	2015	1121	82.6	82.6	1.9	11.7	2.2	1.7	0.0	86.9	78.1
Kazakhstan	2011	624	81.5	81.5	2.0	12.7	0.9	2.9	0.1	80.3	82.7
	2015	694	86.5	86.5	1.8	10.2	0.3	1.1	0.2	89.6	83.7
Korea, Rep. of	2011	741	80.7	80.7	0.3	18.8	0.3	0.0	0.0	81.7	79.6
	2015	765	85.1	85.1	0.0	14.3	0.3	0.4	0.0	86.9	83.4
Lebanon	2011	564	71.0	71.0	3.1	22.0	1.2	2.6	0.1	68.9	73.4
	2015	534	61.6	61.6	1.9	26.4	3.9	6.3	0.0	63.4	59.6
Lithuania	2011	682	70.2	70.2	0.8	26.1	0.0	2.9	0.0	72.2	68.3
	2015	610	65.8	65.8	0.4	32.2	0.1	1.5	0.0	64.6	67.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_01A (S052090A): Biology / Knowing Type: MC Key: A
Label: Influenza: Cause

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	60.0	60.0	6.2	30.5	2.3	0.5	0.5	60.8	59.3
	2015	1395	52.3	52.3	5.9	38.1	3.3	0.3	0.2	54.7	49.9
Morocco	2011	1170	66.1	66.1	4.0	22.3	4.2	3.1	0.3	69.1	63.4
	2015	1892	62.8	62.8	3.3	24.6	6.3	2.9	0.1	61.2	64.1
New Zealand	2011	760	62.1	62.1	2.7	31.8	1.6	1.9	0.0	62.3	61.9
	2015	1146	59.8	59.8	2.3	31.9	2.8	2.6	0.5	62.5	57.4
Oman	2011	1371	74.0	74.0	5.0	14.1	5.4	1.5	0.1	79.9	68.0
	2015	1262	72.9	72.9	4.8	17.1	4.1	0.8	0.3	77.3	69.0
Qatar	2011	632	64.8	64.8	6.4	21.0	4.7	2.7	0.3	66.8	62.8
	2015	772	64.1	64.1	4.9	25.6	2.9	2.3	0.2	67.5	60.6
Russian Federation	2011	696	88.4	88.4	0.3	9.2	0.3	1.9	0.0	85.9	90.6
	2015	676	86.2	86.2	0.4	9.9	1.4	1.8	0.3	90.8	81.8
Saudi Arabia	2011	615	74.2	74.2	1.6	20.0	3.3	1.0	0.0	72.0	76.2
	2015	544	70.0	70.0	1.6	21.1	4.6	2.1	0.6	64.7	75.3
Singapore	2011	834	73.1	73.1	1.9	23.0	1.1	0.9	0.0	71.0	75.0
	2015	871	63.6	63.6	1.0	34.6	0.4	0.4	0.0	66.2	60.8
Slovenia	2011	632	59.3	59.3	0.8	37.4	0.6	1.9	0.0	52.3	65.7
	2015	602	67.1	67.1	0.2	30.8	0.6	1.2	0.0	66.2	67.9
South Africa	2011	1704	35.9	35.9	13.6	39.9	7.6	2.8	0.3	37.4	34.3
	2015	1798	38.5	38.5	12.3	41.8	6.1	1.3	0.0	34.7	42.9
Sweden	2011	796	71.5	71.5	0.3	25.9	0.5	1.7	0.0	71.5	71.6
	2015	584	67.3	67.3	0.3	28.2	0.5	3.6	0.1	65.7	68.8
Thailand	2011	884	70.4	70.4	4.5	21.0	2.9	1.0	0.2	70.8	70.0
	2015	923	56.9	56.9	4.6	32.5	4.2	1.7	0.1	57.4	56.3
Turkey	2011	982	63.0	63.0	1.8	33.1	1.1	0.9	0.1	63.4	62.6
	2015	864	52.4	52.4	1.5	44.3	1.1	0.7	0.0	53.2	51.5
United Arab Emirates	2011	2006	74.9	74.9	3.6	16.4	3.7	1.3	0.2	78.3	71.4
	2015	2567	71.1	71.1	3.7	19.9	3.2	2.0	0.0	73.3	68.8
United States	2011	1517	64.1	64.1	1.6	31.2	2.4	0.6	0.0	61.7	66.8
	2015	1457	65.3	65.3	1.9	30.2	1.7	0.8	0.2	62.0	68.5

International Avg (n=33)	2011	28379	70.6	70.6	3.0	22.9	2.0	1.3	0.1	71.0	70.2
	2015	31166	67.5	67.5	2.8	26.0	2.1	1.5	0.1	68.4	66.8

Ontario, Canada	2011	673	68.1	68.1	1.2	25.3	3.3	1.9	0.2	66.4	69.5
	2015	645	65.9	65.9	1.1	29.1	2.7	0.9	0.4	62.6	69.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_01A (S052090A): Biology / Knowing Type: MC Key: A
Label: Influenza: Cause

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	61.5	61.5	1.0	32.7	2.5	2.0	0.2	56.5	67.3
	2015	555	61.7	61.7	0.8	36.7	0.6	0.2	0.0	65.9	56.7
Norway (8)	2011	557	46.3	46.3	0.9	49.3	0.8	2.6	0.0	48.9	43.8
	2015	672	45.7	45.7	0.5	52.3	0.6	0.9	0.0	44.4	46.7
Abu Dhabi, UAE	2011	630	76.5	76.5	3.4	16.0	3.0	0.9	0.2	76.7	76.3
	2015	690	68.0	68.0	4.5	21.7	2.9	2.7	0.1	70.8	65.2
Dubai, UAE	2011	784	73.3	73.3	4.1	17.2	3.4	1.7	0.4	73.8	72.9
	2015	883	76.5	76.5	2.8	18.3	1.8	0.6	0.0	77.0	76.0
Florida, US	2011	229	73.7	73.7	2.0	22.8	0.8	0.6	0.0	72.7	74.8
	2015	301	71.0	71.0	3.1	23.2	1.2	1.5	0.0	69.5	72.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_01B (S052090B): Biology / Knowing Type: CR 1 Point
Label: Influenza: How is it spread

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	28.2	12.4	37.0	16.1	6.0	0.2	28.2	29.7	26.6
	2015	1479	40.5	1.1	33.5	16.7	8.2	0.1	40.5	41.3	39.6
Bahrain	2011	652	29.9	4.1	23.5	26.2	16.1	0.2	29.9	34.5	25.1
	2015	693	14.9	4.4	46.7	21.4	12.6	0.0	14.9	20.1	10.1
Botswana	2011	767	9.8	5.1	34.2	39.5	11.2	0.1	9.8	11.7	7.8
	2015	855	7.5	4.6	41.3	35.4	11.3	0.0	7.5	10.5	4.5
Chile	2011	825	15.8	10.6	25.1	34.4	14.0	0.2	15.8	17.3	13.9
	2015	702	16.5	10.6	24.5	22.0	26.5	0.0	16.5	17.9	15.2
Chinese Taipei	2011	715	21.5	16.3	39.2	14.8	8.2	0.0	21.5	23.9	19.2
	2015	819	35.0	12.3	18.9	24.2	9.4	0.2	35.0	37.9	32.3
England	2011	549	23.3	15.2	40.2	14.1	7.0	0.1	23.3	26.2	20.9
	2015	694	36.1	7.7	36.3	12.4	7.5	0.0	36.1	37.0	35.1
Georgia	2011	657	5.6	3.7	28.6	29.7	32.4	0.0	5.6	4.2	7.0
	2015	575	5.0	1.7	42.0	28.2	23.1	0.0	5.0	4.6	5.3
Hong Kong SAR	2011	570	25.7	12.9	25.1	23.9	12.1	0.3	25.7	27.4	24.1
	2015	583	18.8	26.7	18.3	29.0	7.0	0.2	18.8	20.1	17.6
Hungary	2011	738	14.1	4.4	50.7	17.9	12.9	0.0	14.1	12.7	15.5
	2015	706	18.0	8.2	42.9	18.1	12.8	0.0	18.0	19.9	16.1
Iran, Islamic Rep. of	2011	860	5.0	6.8	42.5	30.0	15.6	0.2	5.0	6.3	3.9
	2015	863	2.6	4.0	26.4	51.8	15.2	0.0	2.6	1.8	3.3
Israel	2011	679	24.5	4.2	38.2	19.6	13.2	0.3	24.5	20.5	28.7
	2015	796	28.0	6.5	33.8	16.4	14.9	0.5	28.0	28.2	27.8
Italy	2011	562	11.3	6.5	39.0	28.8	14.5	0.0	11.3	11.3	11.3
	2015	640	14.3	7.4	39.0	23.8	15.5	0.0	14.3	9.3	19.4
Japan	2011	637	18.2	10.0	45.0	23.0	3.8	0.0	18.2	17.5	18.8
	2015	684	21.6	14.0	36.7	23.3	4.5	0.0	21.6	20.9	22.3
Jordan	2011	1080	8.8	3.2	35.6	36.0	16.4	0.1	8.8	10.8	6.8
	2015	1121	24.2	6.2	6.8	48.7	14.1	0.0	24.2	30.6	17.5
Kazakhstan	2011	624	16.6	5.1	20.4	32.6	25.2	0.1	16.6	19.3	13.9
	2015	694	44.0	15.3	2.8	18.6	19.1	0.2	44.0	50.0	38.7
Korea, Rep. of	2011	741	11.1	8.4	39.1	37.8	3.7	0.0	11.1	8.8	13.5
	2015	765	8.6	9.2	29.8	46.2	6.3	0.0	8.6	8.9	8.3
Lebanon	2011	568	3.7	3.3	24.2	37.3	30.9	0.7	3.7	3.0	4.5
	2015	549	7.4	2.2	15.0	38.8	36.6	0.0	7.4	5.6	9.3
Lithuania	2011	682	15.9	2.7	41.9	27.3	12.1	0.0	15.9	17.0	14.9
	2015	610	19.6	2.8	40.9	24.3	12.4	0.0	19.6	16.8	22.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_01B (S052090B): Biology / Knowing Type: CR 1 Point
Label: Influenza: How is it spread

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	4.9	3.3	16.1	50.8	24.4	0.5	4.9	4.1	5.8
	2015	1395	4.6	5.1	18.9	61.1	10.2	0.2	4.6	4.0	5.2
Morocco	2011	1170	4.6	4.4	28.7	32.0	29.9	0.3	4.6	4.7	4.5
	2015	1892	5.6	8.2	21.3	33.0	31.8	0.1	5.6	6.0	5.4
New Zealand	2011	760	31.9	13.0	30.5	16.2	8.4	0.0	31.9	37.4	27.1
	2015	1146	30.2	11.9	35.2	14.3	8.0	0.5	30.2	34.3	26.4
Oman	2011	1371	8.7	8.3	21.0	39.1	22.7	0.2	8.7	9.2	8.2
	2015	1259	5.7	6.8	23.5	51.4	12.3	0.3	5.7	7.6	4.0
Qatar	2011	632	9.6	4.6	20.5	40.5	24.6	0.3	9.6	10.7	8.5
	2015	772	19.9	5.0	25.3	28.7	20.9	0.2	19.9	21.6	18.1
Russian Federation	2011	696	21.3	2.2	39.6	23.0	13.9	0.0	21.3	20.7	21.8
	2015	676	21.7	5.0	27.9	31.3	13.8	0.3	21.7	24.1	19.3
Saudi Arabia	2011	617	5.8	6.1	39.4	33.6	15.2	0.0	5.8	7.8	3.9
	2015	544	5.2	1.3	21.4	45.8	25.6	0.6	5.2	5.1	5.3
Singapore	2011	834	30.2	10.0	41.7	13.3	4.7	0.0	30.2	30.1	30.3
	2015	871	38.4	4.2	35.5	18.0	3.9	0.0	38.4	37.6	39.3
Slovenia	2011	632	13.7	8.1	52.4	17.1	8.7	0.0	13.7	15.9	11.8
	2015	602	14.9	12.0	35.0	29.8	8.3	0.0	14.9	13.5	16.1
South Africa	2011	1704	6.5	5.9	25.9	35.8	25.4	0.5	6.5	6.8	6.1
	2015	1798	7.7	3.1	21.1	60.6	7.3	0.1	7.7	8.4	6.8
Sweden	2011	794	33.8	9.6	25.3	20.5	10.9	0.0	33.8	35.1	32.6
	2015	584	26.2	17.5	30.6	17.4	8.2	0.1	26.2	27.2	25.3
Thailand	2011	884	7.5	2.9	36.5	25.9	26.9	0.3	7.5	8.2	6.8
	2015	923	4.0	3.1	31.6	40.2	21.0	0.1	4.0	3.6	4.4
Turkey	2011	982	7.3	3.3	47.5	29.9	11.9	0.1	7.3	6.0	8.5
	2015	864	11.5	2.6	47.3	27.9	10.7	0.0	11.5	10.6	12.4
United Arab Emirates	2011	2006	12.8	10.8	33.8	27.5	14.8	0.2	12.8	13.2	12.4
	2015	2567	11.8	9.4	31.0	33.3	14.4	0.0	11.8	13.6	10.0
United States	2011	1517	24.5	8.2	42.9	20.5	3.8	0.0	24.5	26.9	22.0
	2015	1457	30.6	7.5	38.8	17.2	5.8	0.2	30.6	33.9	27.4

International Avg (n=33)	2011	28382	15.5	7.1	34.3	27.7	15.2	0.2	15.5	16.3	14.7
	2015	31178	18.2	7.5	29.7	30.6	13.9	0.1	18.2	19.2	17.3

Ontario, Canada	2011	673	32.5	14.6	35.9	10.2	6.7	0.2	32.5	37.6	28.0
	2015	647	37.5	12.6	28.3	16.4	4.9	0.4	37.5	41.7	33.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_01B (S052090B): Biology / Knowing Type: CR 1 Point
Label: Influenza: How is it spread

COUNTRY	Year	N	10 %	70 %	71 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	13.0	11.6	39.1	28.5	7.6	0.3	13.0	15.9	9.6
	2015	558	24.1	14.7	39.0	17.2	4.8	0.0	24.1	24.6	23.5
Norway (8)	2011	557	32.3	11.8	32.9	15.0	8.0	0.0	32.3	37.0	27.7
	2015	672	34.3	14.8	30.4	12.8	7.6	0.0	34.3	36.6	32.4
Abu Dhabi, UAE	2011	630	13.5	11.3	34.1	25.7	15.2	0.2	13.5	14.0	13.2
	2015	690	9.7	9.4	27.9	37.5	15.4	0.1	9.7	11.1	8.3
Dubai, UAE	2011	784	15.2	9.5	39.0	21.0	14.6	0.5	15.2	13.5	16.9
	2015	883	20.7	12.0	36.0	23.9	7.4	0.0	20.7	23.9	17.1
Florida, US	2011	229	30.1	9.2	39.9	16.0	4.4	0.4	30.1	28.7	31.5
	2015	301	28.6	7.5	38.3	18.0	7.6	0.0	28.6	32.8	23.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_02 (S052262): Biology / Applying Type: MC Key: A
Label: Biceps and triceps

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	54.3	54.3	19.6	17.1	8.3	0.4	0.3	48.8	60.2
	2015	1479	50.9	50.9	23.2	17.6	7.5	0.8	0.1	51.1	50.6
Bahrain	2011	652	32.0	32.0	20.3	32.2	11.6	3.7	0.2	35.6	28.3
	2015	693	35.8	35.8	23.2	26.7	12.4	1.8	0.0	43.2	29.0
Botswana	2011	766	49.0	49.0	20.0	21.2	9.1	0.6	0.1	42.0	56.5
	2015	853	43.6	43.6	19.6	24.8	11.0	1.0	0.1	38.1	49.0
Chile	2011	825	46.2	46.2	22.6	17.3	12.2	1.2	0.4	39.1	54.8
	2015	702	44.9	44.9	23.7	19.3	11.4	0.7	0.0	38.1	50.5
Chinese Taipei	2011	715	63.8	63.8	11.4	20.9	3.9	0.0	0.0	59.1	68.4
	2015	819	59.8	59.8	14.2	20.2	5.6	0.0	0.2	64.2	55.7
England	2011	549	55.5	55.5	17.2	22.6	3.7	0.6	0.4	54.1	56.7
	2015	694	52.6	52.6	19.0	21.5	6.5	0.2	0.0	56.9	48.1
Georgia	2011	658	41.5	41.5	19.3	26.7	10.3	2.2	0.0	36.1	46.9
	2015	575	39.2	39.2	25.0	22.1	10.6	2.8	0.4	34.3	43.0
Hong Kong SAR	2011	570	46.5	46.5	17.5	29.7	5.9	0.0	0.3	49.3	43.8
	2015	583	49.6	49.6	23.3	19.7	7.1	0.2	0.2	49.1	50.0
Hungary	2011	739	56.5	56.5	25.2	13.4	4.8	0.1	0.0	51.8	61.3
	2015	706	57.9	57.9	22.2	12.9	6.5	0.5	0.0	55.5	60.4
Iran, Islamic Rep. of	2011	860	43.4	43.4	18.6	26.7	9.3	1.9	0.2	42.7	43.9
	2015	863	46.4	46.4	18.8	24.1	9.2	1.5	0.0	49.5	43.7
Israel	2011	679	41.9	41.9	20.4	24.6	10.0	2.7	0.3	42.6	41.1
	2015	796	40.9	40.9	23.0	22.7	11.7	1.3	0.5	40.5	41.2
Italy	2011	562	60.8	60.8	19.1	14.1	5.5	0.5	0.0	60.2	61.4
	2015	640	58.1	58.1	20.9	14.6	6.0	0.4	0.0	58.4	57.7
Japan	2011	637	81.3	81.3	6.1	11.0	1.1	0.5	0.0	80.2	82.4
	2015	684	83.7	83.7	4.6	11.3	0.3	0.2	0.0	85.1	82.1
Jordan	2011	1080	27.8	27.8	23.7	33.6	12.4	2.4	0.1	28.4	27.2
	2015	1122	24.7	24.7	23.6	31.5	16.7	3.4	0.1	27.1	22.3
Kazakhstan	2011	624	56.1	56.1	15.1	21.0	6.3	1.3	0.1	54.7	57.6
	2015	695	65.2	65.2	14.6	14.3	4.4	1.4	0.2	63.5	66.6
Korea, Rep. of	2011	741	73.8	73.8	6.2	17.8	2.1	0.0	0.0	75.1	72.6
	2015	765	70.3	70.3	6.9	19.0	3.7	0.1	0.0	71.9	68.8
Lebanon	2011	562	33.7	33.7	21.2	30.5	8.6	5.3	0.7	32.5	35.2
	2015	547	34.2	34.2	21.7	29.0	8.0	7.2	0.0	33.3	35.1
Lithuania	2011	682	54.8	54.8	20.0	19.5	5.0	0.7	0.0	53.4	56.1
	2015	609	54.6	54.6	19.0	17.8	8.3	0.3	0.0	53.2	56.1

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_02 (S052262): Biology / Applying Type: MC Key: A
Label: Biceps and triceps

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	43.5	43.5	22.1	23.4	10.2	0.4	0.5	39.5	47.6
	2015	1395	43.0	43.0	26.2	17.8	12.5	0.3	0.3	40.8	45.1
Morocco	2011	1180	25.9	25.9	27.3	28.2	14.3	4.1	0.3	22.8	28.6
	2015	1891	23.2	23.2	25.1	31.5	16.5	3.6	0.1	23.1	23.2
New Zealand	2011	760	56.8	56.8	17.3	18.7	5.8	1.3	0.0	54.3	59.1
	2015	1146	51.6	51.6	21.7	17.1	7.4	1.6	0.5	50.5	52.6
Oman	2011	1371	30.0	30.0	24.0	29.4	13.9	2.5	0.2	31.1	28.9
	2015	1261	33.9	33.9	21.3	31.9	11.5	1.1	0.3	32.9	34.7
Qatar	2011	632	34.8	34.8	19.3	32.4	10.4	2.8	0.3	34.4	35.1
	2015	772	39.9	39.9	21.1	29.1	8.5	1.2	0.2	41.6	38.1
Russian Federation	2011	695	68.6	68.6	14.1	15.2	1.4	0.7	0.0	66.1	70.8
	2015	676	65.5	65.5	12.6	15.5	5.8	0.3	0.3	60.9	69.9
Saudi Arabia	2011	616	34.6	34.6	22.4	30.7	11.9	0.4	0.0	40.1	29.5
	2015	544	30.6	30.6	26.3	28.5	12.7	1.3	0.6	31.7	29.6
Singapore	2011	834	64.3	64.3	16.6	14.8	3.9	0.4	0.0	64.3	64.3
	2015	871	61.0	61.0	18.9	14.5	5.1	0.4	0.0	60.5	61.6
Slovenia	2011	632	57.5	57.5	17.5	18.3	5.9	0.8	0.0	53.3	61.3
	2015	602	60.0	60.0	18.8	16.5	3.9	0.8	0.0	57.3	62.4
South Africa	2011	1704	35.3	35.3	21.8	26.4	12.2	3.9	0.5	35.5	35.0
	2015	1798	37.1	37.1	24.0	25.1	12.5	1.2	0.1	37.5	36.7
Sweden	2011	796	59.6	59.6	20.9	14.9	3.6	1.0	0.0	56.1	62.7
	2015	584	58.1	58.1	23.6	11.0	4.5	2.7	0.1	59.4	57.0
Thailand	2011	884	47.4	47.4	18.4	23.4	8.8	1.8	0.3	44.4	51.0
	2015	922	39.0	39.0	21.8	25.0	12.2	1.9	0.1	41.5	36.1
Turkey	2011	982	48.1	48.1	16.4	23.6	10.5	1.3	0.2	49.3	47.0
	2015	864	47.8	47.8	17.7	23.3	11.1	0.2	0.0	52.1	43.1
United Arab Emirates	2011	2006	37.6	37.6	22.1	26.8	11.9	1.3	0.3	38.3	36.9
	2015	2567	38.2	38.2	23.0	26.6	10.9	1.3	0.0	40.1	36.1
United States	2011	1517	56.2	56.2	17.0	20.1	6.2	0.4	0.0	56.8	55.6
	2015	1457	51.8	51.8	20.1	20.7	6.4	0.8	0.2	51.7	52.0

International Avg (n=33)	2011	28387	49.1	49.1	18.8	22.6	7.9	1.4	0.2	47.6	50.5
	2015	31175	48.3	48.3	20.3	21.3	8.7	1.3	0.1	48.3	48.1

Ontario, Canada	2011	673	49.9	49.9	20.7	20.6	6.9	1.7	0.2	45.3	53.9
	2015	646	53.9	53.9	22.5	16.6	5.9	0.7	0.4	57.0	50.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_02 (S052262): Biology / Applying Type: MC Key: A
Label: Biceps and triceps

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	48.6	48.6	20.2	22.1	7.0	1.8	0.3	47.5	49.9
	2015	557	44.2	44.2	24.7	19.3	9.8	2.0	0.0	38.5	51.2
Norway (8)	2011	557	47.0	47.0	24.8	17.6	9.8	0.7	0.0	48.1	45.8
	2015	672	45.4	45.4	30.9	15.1	7.7	0.9	0.0	42.6	47.7
Abu Dhabi, UAE	2011	630	35.6	35.6	21.7	27.8	13.5	1.0	0.4	35.3	35.9
	2015	690	33.7	33.7	25.1	28.8	11.3	1.0	0.1	37.5	29.8
Dubai, UAE	2011	784	42.1	42.1	20.8	24.9	9.4	2.2	0.6	42.0	42.3
	2015	883	49.6	49.6	19.7	22.5	7.3	0.9	0.0	49.1	50.2
Florida, US	2011	229	53.7	53.7	20.5	19.4	5.4	0.6	0.4	56.9	50.5
	2015	301	48.5	48.5	20.5	23.1	6.7	0.7	0.5	50.3	46.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_03 (S052267): Biology / Knowing Type: MC Key: C
Label: Acquired characteristics

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	45.4	8.2	34.0	45.4	10.2	1.9	0.3	47.9	42.8
	2015	1479	48.0	7.8	33.1	48.0	8.9	2.2	0.1	49.6	46.3
Bahrain	2011	652	23.2	15.8	41.7	23.2	16.7	2.5	0.2	25.6	20.7
	2015	693	28.9	15.8	34.3	28.9	18.6	2.4	0.0	30.6	27.3
Botswana	2011	766	25.3	15.4	37.2	25.3	20.1	1.9	0.1	24.1	26.7
	2015	853	21.9	10.7	49.3	21.9	16.8	1.1	0.3	22.8	20.9
Chile	2011	825	36.1	9.6	42.5	36.1	10.3	0.9	0.5	35.7	36.5
	2015	702	31.6	14.0	46.2	31.6	6.8	1.3	0.0	31.6	31.7
Chinese Taipei	2011	715	91.6	3.2	2.6	91.6	2.4	0.2	0.0	93.7	89.6
	2015	819	89.1	3.8	2.8	89.1	3.6	0.5	0.2	92.9	85.6
England	2011	549	51.2	5.0	27.5	51.2	9.6	6.3	0.4	52.4	50.2
	2015	694	51.3	5.2	29.2	51.3	9.4	5.0	0.0	60.2	41.9
Georgia	2011	658	65.4	13.2	9.3	65.4	10.9	1.2	0.0	74.0	56.5
	2015	575	61.5	12.3	14.5	61.5	9.9	1.4	0.4	68.8	55.7
Hong Kong SAR	2011	570	82.8	4.3	6.1	82.8	6.4	0.2	0.3	86.1	79.5
	2015	583	84.1	3.6	4.5	84.1	7.3	0.3	0.2	86.2	82.0
Hungary	2011	739	65.5	6.8	19.3	65.5	5.1	3.3	0.0	70.7	60.2
	2015	706	65.5	8.1	17.9	65.5	6.2	2.4	0.0	65.9	65.0
Iran, Islamic Rep. of	2011	860	31.4	16.1	31.7	31.4	19.6	0.8	0.4	33.3	29.8
	2015	863	47.1	11.4	20.2	47.1	20.1	1.2	0.1	52.0	42.6
Israel	2011	679	52.3	9.8	28.3	52.3	7.5	1.8	0.3	55.8	48.7
	2015	796	51.7	7.5	29.8	51.7	7.6	2.8	0.6	53.9	49.5
Italy	2011	558	31.1	6.5	37.6	31.1	12.9	11.9	0.1	29.1	33.0
	2015	640	30.7	7.5	39.7	30.7	10.2	11.9	0.0	31.4	30.0
Japan	2011	637	44.4	14.4	29.6	44.4	10.5	1.2	0.0	48.2	40.6
	2015	684	48.3	11.3	30.9	48.3	8.3	1.3	0.0	55.3	40.7
Jordan	2011	1080	43.2	11.0	26.3	43.2	18.8	0.5	0.1	49.0	37.8
	2015	1122	37.9	14.8	26.5	37.9	19.3	1.5	0.1	45.1	30.4
Kazakhstan	2011	624	47.2	14.7	20.5	47.2	15.6	2.0	0.1	48.1	46.2
	2015	695	57.1	14.0	13.2	57.1	12.5	3.2	0.2	57.4	56.9
Korea, Rep. of	2011	741	72.3	3.9	20.3	72.3	3.6	0.0	0.0	75.1	69.3
	2015	765	63.7	8.9	21.4	63.7	5.9	0.1	0.0	64.4	63.1
Lebanon	2011	555	22.4	12.9	38.1	22.4	15.6	9.9	1.1	21.0	23.9
	2015	532	23.5	12.7	35.5	23.5	16.4	11.8	0.1	20.6	26.6
Lithuania	2011	682	51.2	7.3	21.3	51.2	14.2	6.0	0.0	61.9	41.3
	2015	609	54.6	9.5	18.6	54.6	14.7	2.7	0.0	61.8	47.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_03 (S052267): Biology / Knowing Type: MC Key: C
Label: Acquired characteristics

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	22.3	28.4	34.7	22.3	13.2	1.1	0.5	21.2	23.4
	2015	1395	24.3	24.1	38.8	24.3	11.2	1.4	0.3	25.8	22.8
Morocco	2011	1149	16.6	12.3	55.0	16.6	10.3	5.3	0.4	15.4	17.7
	2015	1891	18.3	11.8	55.8	18.3	10.2	3.7	0.1	17.9	18.7
New Zealand	2011	760	48.0	8.3	32.1	48.0	8.8	2.8	0.0	48.8	47.2
	2015	1146	41.8	11.5	32.3	41.8	9.8	4.1	0.5	44.3	39.5
Oman	2011	1371	24.5	17.0	34.5	24.5	19.9	3.8	0.3	24.4	24.6
	2015	1262	24.8	16.3	37.5	24.8	19.6	1.5	0.3	27.4	22.5
Qatar	2011	632	28.8	15.5	37.7	28.8	14.5	3.3	0.3	29.1	28.4
	2015	772	30.3	15.8	39.0	30.3	12.9	1.8	0.2	31.9	28.6
Russian Federation	2011	696	74.5	4.7	9.7	74.5	8.3	2.8	0.0	74.7	74.3
	2015	676	78.2	2.8	6.7	78.2	8.6	3.4	0.3	77.3	79.1
Saudi Arabia	2011	615	19.7	18.6	51.3	19.7	10.0	0.4	0.0	17.4	21.8
	2015	544	17.4	27.2	37.3	17.4	16.6	0.9	0.6	18.6	16.1
Singapore	2011	834	63.1	8.4	13.7	63.1	14.1	0.7	0.0	72.1	54.6
	2015	871	70.7	6.9	10.0	70.7	11.6	0.8	0.0	78.7	61.9
Slovenia	2011	632	56.1	7.3	18.7	56.1	13.5	4.4	0.0	58.8	53.7
	2015	602	56.2	8.0	22.1	56.2	10.8	2.9	0.0	59.9	53.1
South Africa	2011	1704	25.1	15.0	35.3	25.1	21.3	2.7	0.6	24.7	25.6
	2015	1798	27.5	17.0	35.0	27.5	18.8	1.3	0.3	28.6	26.2
Sweden	2011	796	43.0	12.1	33.1	43.0	10.0	1.7	0.1	47.7	38.8
	2015	584	42.5	8.8	34.1	42.5	12.1	2.4	0.1	48.4	37.4
Thailand	2011	884	37.6	19.7	14.5	37.6	27.2	0.7	0.3	41.7	32.7
	2015	922	43.9	17.3	12.5	43.9	25.8	0.4	0.2	48.4	38.5
Turkey	2011	982	78.0	4.3	4.6	78.0	12.3	0.6	0.2	84.2	72.5
	2015	864	78.4	4.2	4.3	78.4	12.8	0.2	0.0	82.7	73.7
United Arab Emirates	2011	2006	33.1	13.9	35.3	33.1	15.8	1.5	0.3	35.9	30.4
	2015	2567	31.3	17.1	36.8	31.3	13.0	1.8	0.0	31.3	31.4
United States	2011	1517	51.6	6.5	30.7	51.6	10.3	0.9	0.0	55.1	47.7
	2015	1457	54.0	8.0	27.8	54.0	8.5	1.6	0.2	59.7	48.2

International Avg (n=33)	2011	28345	45.6	11.2	27.7	45.6	12.7	2.6	0.2	48.0	43.2
	2015	31161	46.5	11.4	27.2	46.5	12.3	2.5	0.2	49.4	43.7

Ontario, Canada	2011	673	46.2	6.5	34.7	46.2	8.7	3.3	0.6	43.4	48.5
	2015	638	49.1	8.6	32.3	49.1	8.1	1.6	0.4	48.5	49.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_03 (S052267): Biology / Knowing Type: MC Key: C
Label: Acquired characteristics

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	40.9	6.1	34.4	40.9	12.5	5.7	0.4	42.6	38.9
	2015	542	42.1	6.4	37.1	42.1	13.8	0.6	0.0	37.8	47.4
Norway (8)	2011	557	25.0	13.2	44.7	25.0	10.4	6.7	0.0	26.3	23.6
	2015	672	22.7	12.3	44.5	22.7	11.8	8.7	0.0	22.5	23.0
Abu Dhabi, UAE	2011	630	32.1	15.0	35.8	32.1	15.5	1.1	0.5	36.6	28.0
	2015	690	29.8	18.9	37.9	29.8	11.3	2.0	0.1	31.4	28.1
Dubai, UAE	2011	784	36.0	13.1	33.7	36.0	14.0	2.5	0.6	37.2	35.0
	2015	883	36.0	12.5	36.1	36.0	13.5	1.8	0.0	34.4	37.8
Florida, US	2011	229	54.8	3.4	32.6	54.8	8.6	0.3	0.4	57.5	52.0
	2015	301	49.9	8.6	27.0	49.9	11.1	2.9	0.5	53.9	45.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_04 (S052273): Biology / Reasoning Type: CR 2 Points
Label: Flooding leads to shortage/disease

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	41.8	31.9	20.0	6.0	0.3	73.7	41.8	43.3	40.2
	2015	1479	9.1	36.6	47.0	7.2	0.1	45.7	9.1	8.7	9.6
Bahrain	2011	652	22.3	25.8	30.3	21.4	0.2	48.1	22.3	28.8	15.5
	2015	693	24.8	26.6	31.2	16.7	0.6	51.5	24.8	31.8	18.4
Botswana	2011	766	14.5	27.8	52.4	5.2	0.1	42.3	14.5	15.5	13.4
	2015	852	17.0	27.2	51.1	4.2	0.5	44.2	17.0	20.2	13.8
Chile	2011	825	7.8	30.8	39.3	21.5	0.5	38.6	7.8	7.9	7.7
	2015	702	9.1	20.9	34.8	35.2	0.0	30.0	9.1	10.9	7.7
Chinese Taipei	2011	715	23.7	35.0	27.6	13.6	0.0	58.8	23.7	25.5	22.0
	2015	819	29.5	30.2	22.9	17.2	0.2	59.7	29.5	34.3	25.1
England	2011	549	13.1	38.3	40.8	7.4	0.4	51.4	13.1	11.4	14.5
	2015	694	33.4	35.4	24.9	6.2	0.0	68.9	33.4	38.5	28.1
Georgia	2011	653	24.1	18.2	24.4	33.2	0.0	42.3	24.1	32.0	16.0
	2015	575	15.1	24.8	29.5	30.2	0.4	39.9	15.1	16.4	14.1
Hong Kong SAR	2011	570	26.3	34.9	25.2	13.3	0.3	61.2	26.3	29.6	23.1
	2015	583	28.6	34.4	29.4	7.4	0.2	63.0	28.6	29.1	28.0
Hungary	2011	739	24.0	29.6	24.7	21.7	0.0	53.6	24.0	25.0	23.0
	2015	706	10.8	26.7	41.6	20.9	0.0	37.5	10.8	11.6	10.0
Iran, Islamic Rep. of	2011	859	24.9	27.7	30.5	16.5	0.4	52.6	24.9	26.3	23.8
	2015	863	3.6	18.6	60.1	17.6	0.1	22.2	3.6	3.7	3.5
Israel	2011	679	16.7	29.1	34.1	19.7	0.3	45.8	16.7	15.5	18.0
	2015	796	17.4	27.8	33.6	20.6	0.6	45.2	17.4	20.0	14.7
Italy	2011	562	8.3	14.5	45.0	31.9	0.4	22.8	8.3	9.8	7.0
	2015	640	3.5	14.7	50.6	31.2	0.0	18.2	3.5	3.3	3.8
Japan	2011	637	24.4	36.8	27.0	11.9	0.0	61.1	24.4	23.0	25.7
	2015	684	33.1	30.2	25.9	10.8	0.0	63.2	33.1	37.0	28.9
Jordan	2011	1080	20.0	34.1	34.6	11.2	0.1	54.1	20.0	23.2	17.0
	2015	1122	9.3	25.4	48.5	16.8	0.1	34.7	9.3	13.0	5.4
Kazakhstan	2011	624	19.3	26.2	28.0	26.3	0.2	45.5	19.3	20.8	17.7
	2015	695	15.5	35.5	31.7	17.1	0.2	51.1	15.5	17.9	13.5
Korea, Rep. of	2011	741	9.8	37.8	42.2	10.2	0.0	47.7	9.8	11.7	7.9
	2015	765	9.0	34.1	46.7	10.2	0.0	43.1	9.0	7.2	10.7
Lebanon	2011	568	4.2	14.5	26.7	53.6	1.1	18.7	4.2	4.0	4.4
	2015	550	0.4	5.9	31.0	62.2	0.4	6.3	0.4	0.8	0.0
Lithuania	2011	682	12.2	28.7	45.1	13.9	0.0	41.0	12.2	11.9	12.5
	2015	609	12.4	35.8	36.3	15.4	0.0	48.2	12.4	15.2	9.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_04 (S052273): Biology / Reasoning Type: CR 2 Points
Label: Flooding leads to shortage/disease

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	15.5	35.4	30.3	18.3	0.5	50.9	15.5	18.2	12.8
	2015	1395	10.3	19.8	54.7	14.8	0.3	30.1	10.3	12.2	8.5
Morocco	2011	1182	10.7	17.5	36.4	34.9	0.6	28.1	10.7	11.5	9.9
	2015	1892	5.2	17.7	44.3	32.6	0.1	22.9	5.2	6.3	4.3
New Zealand	2011	760	10.4	30.9	50.4	8.2	0.0	41.3	10.4	11.4	9.6
	2015	1146	17.0	35.1	38.4	9.0	0.5	52.2	17.0	19.5	14.8
Oman	2011	1371	19.3	27.4	34.6	18.3	0.3	46.8	19.3	25.7	13.0
	2015	1261	17.2	30.6	41.2	10.7	0.3	47.7	17.2	22.9	12.0
Qatar	2011	632	17.8	16.3	38.5	27.1	0.3	34.1	17.8	20.9	14.6
	2015	772	19.8	23.2	38.6	18.2	0.2	43.1	19.8	21.4	18.2
Russian Federation	2011	695	12.9	28.7	35.2	23.2	0.0	41.6	12.9	12.8	13.0
	2015	676	20.1	35.2	28.5	15.9	0.3	55.3	20.1	22.2	18.1
Saudi Arabia	2011	617	12.0	29.2	42.0	16.8	0.0	41.1	12.0	15.1	9.0
	2015	544	9.2	15.1	51.1	24.1	0.6	24.3	9.2	11.1	7.4
Singapore	2011	834	24.7	37.6	32.6	5.1	0.0	62.2	24.7	25.2	24.2
	2015	871	35.4	36.5	24.1	4.0	0.0	72.0	35.4	33.9	37.2
Slovenia	2011	632	22.9	34.9	31.8	10.4	0.0	57.8	22.9	26.5	19.6
	2015	602	38.8	36.8	17.5	6.9	0.0	75.6	38.8	45.6	33.0
South Africa	2011	1704	6.9	10.9	58.8	22.9	0.6	17.8	6.9	8.1	5.7
	2015	1798	8.0	14.4	65.2	12.0	0.3	22.4	8.0	11.0	4.6
Sweden	2011	795	13.4	32.1	36.0	18.5	0.1	45.4	13.4	16.1	10.9
	2015	584	12.4	36.1	37.5	13.9	0.1	48.5	12.4	13.4	11.5
Thailand	2011	884	16.9	32.6	24.9	25.2	0.3	49.6	16.9	18.5	15.0
	2015	922	9.1	29.8	42.8	18.1	0.2	38.9	9.1	11.8	6.0
Turkey	2011	982	25.1	22.1	38.5	14.2	0.2	47.2	25.1	24.9	25.2
	2015	864	26.8	22.7	39.3	11.3	0.0	49.5	26.8	30.8	22.5
United Arab Emirates	2011	2006	18.5	28.9	39.9	12.4	0.3	47.4	18.5	20.9	16.0
	2015	2567	16.2	25.4	46.0	12.3	0.0	41.6	16.2	19.7	12.5
United States	2011	1517	15.4	33.0	47.0	4.5	0.0	48.4	15.4	17.3	13.3
	2015	1457	26.4	38.3	30.3	4.8	0.2	64.7	26.4	29.8	23.0

International Avg (n=33)	2011	28389	17.6	28.5	35.6	18.1	0.2	46.0	17.6	19.3	15.8
	2015	31178	16.8	27.5	38.7	16.8	0.2	44.3	16.8	19.1	14.5

Ontario, Canada	2011	673	21.6	39.7	29.0	9.1	0.6	61.3	21.6	21.4	21.7
	2015	647	25.5	32.0	32.4	9.6	0.4	57.6	25.5	28.4	22.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_04 (S052273): Biology / Reasoning Type: CR 2 Points
Label: Flooding leads to shortage/disease

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	14.9	32.6	37.6	14.6	0.4	47.5	14.9	15.4	14.3
	2015	558	21.9	30.9	32.6	14.6	0.0	52.8	21.9	20.6	23.4
Norway (8)	2011	557	15.7	36.3	37.0	11.0	0.0	52.0	15.7	16.6	14.8
	2015	672	16.5	32.2	37.1	14.2	0.0	48.7	16.5	22.0	11.6
Abu Dhabi, UAE	2011	630	17.1	30.6	41.5	10.3	0.5	47.7	17.1	18.8	15.6
	2015	690	10.2	24.5	51.1	14.1	0.1	34.7	10.2	14.4	5.9
Dubai, UAE	2011	784	24.4	27.5	32.2	15.4	0.6	51.8	24.4	28.1	20.9
	2015	883	28.3	27.5	36.3	7.9	0.0	55.8	28.3	32.6	23.5
Florida, US	2011	229	20.1	29.8	42.5	7.2	0.4	49.9	20.1	20.8	19.3
	2015	301	23.4	37.7	29.4	8.7	0.9	61.1	23.4	29.7	16.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_05Z (S052015Z): Chemistry / Applying Type: CR 1 Point
Label: Symbols represent elements (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	43.3	46.4	10.0	0.3	43.3	41.3	45.4
	2015	1479	51.9	41.9	6.1	0.1	51.9	51.6	52.2
Bahrain	2011	652	44.5	42.9	12.4	0.2	44.5	52.6	36.0
	2015	693	49.7	42.7	7.0	0.6	49.7	54.7	45.1
Botswana	2011	766	14.3	48.6	36.8	0.3	14.3	16.8	11.7
	2015	852	22.3	56.1	21.0	0.6	22.3	25.0	19.6
Chile	2011	825	52.3	31.2	15.7	0.8	52.3	49.3	55.9
	2015	702	51.8	37.4	10.8	0.1	51.8	55.6	48.5
Chinese Taipei	2011	715	76.1	22.1	1.8	0.0	76.1	79.5	72.8
	2015	819	75.2	23.5	1.2	0.2	75.2	79.1	71.6
England	2011	549	57.3	29.8	12.2	0.6	57.3	64.0	51.6
	2015	694	65.1	27.7	6.8	0.4	65.1	65.5	64.7
Georgia	2011	653	20.6	38.1	41.1	0.2	20.6	25.1	16.0
	2015	575	67.2	20.7	11.8	0.4	67.2	78.6	58.0
Hong Kong SAR	2011	568	38.3	53.8	7.6	0.3	38.3	37.5	39.1
	2015	583	51.8	46.0	2.1	0.2	51.8	50.3	53.3
Hungary	2011	739	67.5	28.3	3.9	0.3	67.5	63.0	72.1
	2015	706	69.8	27.5	2.7	0.0	69.8	70.8	68.8
Iran, Islamic Rep. of	2011	860	37.5	55.3	6.8	0.4	37.5	43.9	32.1
	2015	863	24.7	69.3	6.0	0.1	24.7	24.8	24.6
Israel	2011	679	66.6	26.7	6.4	0.3	66.6	67.7	65.4
	2015	796	67.8	25.5	5.7	1.0	67.8	71.3	64.1
Italy	2011	562	64.1	26.8	8.5	0.6	64.1	64.2	64.0
	2015	640	61.3	34.0	4.5	0.2	61.3	62.4	60.2
Japan	2011	637	73.9	18.9	7.2	0.0	73.9	73.9	73.9
	2015	684	75.4	21.1	3.5	0.0	75.4	78.7	71.8
Jordan	2011	1080	65.7	26.9	7.2	0.2	65.7	69.2	62.4
	2015	1122	61.9	30.6	7.4	0.1	61.9	70.0	53.5
Kazakhstan	2011	624	68.5	26.1	5.1	0.3	68.5	75.9	60.9
	2015	695	76.7	21.0	2.1	0.2	76.7	78.8	74.8
Korea, Rep. of	2011	741	57.9	38.9	3.1	0.0	57.9	61.9	53.8
	2015	765	68.5	29.4	2.1	0.0	68.5	71.1	66.1
Lebanon	2011	540	58.0	22.6	18.0	1.3	58.0	59.5	56.3
	2015	547	56.7	24.3	18.5	0.5	56.7	64.7	48.3
Lithuania	2011	682	81.7	12.7	5.4	0.2	81.7	86.1	77.6
	2015	609	84.7	12.6	2.7	0.0	84.7	88.6	80.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_05Z (S052015Z): Chemistry / Applying Type: CR 1 Point
Label: Symbols represent elements (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	807	20.9	60.6	17.7	0.8	20.9	20.8	21.0
	2015	1395	33.9	60.9	4.9	0.3	33.9	36.4	31.4
Morocco	2011	1145	35.3	50.8	12.5	1.4	35.3	34.7	35.9
	2015	1891	38.9	48.3	12.6	0.3	38.9	40.0	37.9
New Zealand	2011	760	60.1	32.8	7.1	0.0	60.1	63.6	57.0
	2015	1146	59.3	34.4	5.7	0.7	59.3	65.2	53.8
Oman	2011	1370	48.5	38.6	12.6	0.3	48.5	61.1	35.8
	2015	1261	49.1	45.6	4.9	0.4	49.1	55.4	43.5
Qatar	2011	631	43.8	32.2	23.7	0.3	43.8	46.5	40.9
	2015	772	50.9	36.3	12.7	0.2	50.9	57.4	44.2
Russian Federation	2011	696	72.7	15.0	12.3	0.0	72.7	73.7	71.8
	2015	676	79.8	14.2	5.7	0.3	79.8	78.0	81.7
Saudi Arabia	2011	596	30.8	63.2	6.0	0.0	30.8	32.3	29.4
	2015	536	28.2	64.3	6.9	0.6	28.2	34.3	22.2
Singapore	2011	834	75.8	22.0	2.2	0.0	75.8	79.3	72.4
	2015	871	76.9	21.4	1.5	0.2	76.9	80.1	73.4
Slovenia	2011	632	86.3	10.9	2.9	0.0	86.3	89.3	83.5
	2015	602	88.3	10.3	1.4	0.0	88.3	88.6	88.0
South Africa	2011	1704	23.0	40.7	35.0	1.3	23.0	24.9	21.2
	2015	1798	40.8	42.0	16.8	0.4	40.8	44.7	36.2
Sweden	2011	796	50.2	39.8	9.6	0.4	50.2	54.6	46.3
	2015	584	59.1	33.5	7.1	0.3	59.1	56.5	61.3
Thailand	2011	884	25.4	24.0	50.2	0.4	25.4	28.8	21.4
	2015	911	39.7	43.4	16.5	0.4	39.7	45.1	33.5
Turkey	2011	982	57.6	29.5	12.7	0.2	57.6	64.9	51.1
	2015	864	65.5	30.7	3.8	0.0	65.5	75.0	55.2
United Arab Emirates	2011	2006	46.5	42.3	10.8	0.4	46.5	49.4	43.5
	2015	2567	57.0	37.5	5.4	0.1	57.0	63.2	50.4
United States	2011	1517	67.8	29.4	2.6	0.1	67.8	67.7	67.9
	2015	1457	68.5	28.4	2.9	0.3	68.5	70.0	66.9
International Avg (n=33)	2011	28301	52.5	34.2	12.9	0.4	52.5	55.2	49.9
	2015	31155	58.1	34.6	7.0	0.3	58.1	61.6	54.7
Ontario, Canada	2011	673	27.6	62.2	9.3	0.9	27.6	25.4	29.2
	2015	638	32.1	61.6	5.7	0.6	32.1	32.7	31.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_05Z (S052015Z): Chemistry / Applying Type: CR 1 Point
Label: Symbols represent elements (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	65.1	30.3	4.2	0.4	65.1	66.2	63.9
	2015	554	76.2	19.6	4.2	0.0	76.2	76.7	75.6
Norway (8)	2011	557	52.4	36.6	11.0	0.0	52.4	53.5	51.2
	2015	672	52.1	40.1	7.8	0.0	52.1	52.3	51.7
Abu Dhabi, UAE	2011	630	46.0	42.4	10.9	0.7	46.0	45.9	46.1
	2015	690	51.5	39.5	8.9	0.1	51.5	59.5	43.2
Dubai, UAE	2011	784	52.0	36.4	11.0	0.6	52.0	56.4	47.9
	2015	883	70.2	28.4	1.5	0.0	70.2	74.2	65.6
Florida, US	2011	229	62.5	36.1	1.0	0.4	62.5	61.7	63.4
	2015	301	61.7	33.4	3.6	1.2	61.7	63.6	59.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_06 (S052051): Chemistry / Reasoning Type: CR 1 Point
Label: Is element metal or nonmetal

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	27.7	70.4	1.6	0.3	27.7	26.9	28.7
	2015	1479	30.6	67.8	1.5	0.1	30.6	30.8	30.3
Bahrain	2011	652	20.7	76.2	2.9	0.2	20.7	28.3	13.0
	2015	693	28.3	67.7	3.4	0.6	28.3	32.1	24.8
Botswana	2011	767	11.6	83.5	4.1	0.8	11.6	10.6	12.7
	2015	852	7.2	89.1	2.6	1.1	7.2	8.8	5.6
Chile	2011	825	17.3	77.5	4.2	0.9	17.3	15.9	19.0
	2015	702	12.5	82.7	4.5	0.3	12.5	10.7	13.9
Chinese Taipei	2011	715	42.0	57.9	0.1	0.0	42.0	42.0	42.0
	2015	819	36.5	63.1	0.3	0.2	36.5	38.5	34.6
England	2011	549	47.9	49.5	2.0	0.6	47.9	52.0	44.3
	2015	694	40.0	57.6	1.9	0.6	40.0	38.3	41.7
Georgia	2011	658	5.1	80.9	13.4	0.6	5.1	4.5	5.8
	2015	575	16.8	77.7	5.1	0.4	16.8	17.2	16.4
Hong Kong SAR	2011	570	29.7	68.3	1.7	0.3	29.7	27.4	32.0
	2015	583	29.2	70.2	0.4	0.2	29.2	24.8	33.6
Hungary	2011	738	49.3	50.2	0.2	0.3	49.3	47.0	51.6
	2015	706	51.0	48.7	0.4	0.0	51.0	51.5	50.4
Iran, Islamic Rep. of	2011	859	36.9	60.8	1.9	0.4	36.9	43.0	31.8
	2015	863	33.9	63.2	2.4	0.6	33.9	37.9	30.2
Israel	2011	679	52.7	44.6	2.4	0.3	52.7	55.6	49.7
	2015	796	51.5	44.6	2.6	1.3	51.5	54.5	48.4
Italy	2011	562	28.6	67.8	2.8	0.8	28.6	25.9	31.1
	2015	640	25.1	73.1	1.6	0.2	25.1	23.8	26.4
Japan	2011	637	62.4	37.2	0.5	0.0	62.4	60.1	64.7
	2015	684	52.5	47.2	0.3	0.0	52.5	52.9	52.1
Jordan	2011	1080	34.1	62.6	3.1	0.2	34.1	39.3	29.2
	2015	1122	24.3	73.7	1.8	0.1	24.3	30.5	17.9
Kazakhstan	2011	622	33.6	52.8	13.3	0.3	33.6	35.6	31.5
	2015	695	47.7	30.9	21.2	0.2	47.7	52.2	43.7
Korea, Rep. of	2011	741	37.0	62.2	0.7	0.1	37.0	33.2	40.9
	2015	765	27.6	71.0	1.4	0.0	27.6	27.5	27.8
Lebanon	2011	569	43.8	50.7	4.2	1.3	43.8	47.7	39.4
	2015	551	19.0	74.2	6.2	0.5	19.0	22.3	15.6
Lithuania	2011	682	48.5	50.1	1.2	0.2	48.5	53.7	43.7
	2015	609	48.7	50.7	0.6	0.0	48.7	46.7	50.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_06 (S052051): Chemistry / Reasoning Type: CR 1 Point
Label: Is element metal or nonmetal

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	20.0	75.3	3.8	0.9	20.0	21.6	18.4
	2015	1395	20.0	75.7	3.6	0.6	20.0	21.2	18.8
Morocco	2011	1172	6.7	86.3	5.6	1.5	6.7	7.5	5.9
	2015	1891	14.7	78.1	6.7	0.5	14.7	15.0	14.4
New Zealand	2011	760	36.9	61.4	1.8	0.0	36.9	35.0	38.5
	2015	1146	24.3	72.9	2.2	0.7	24.3	21.9	26.4
Oman	2011	1371	10.8	83.8	5.0	0.4	10.8	13.8	7.7
	2015	1260	20.5	76.8	2.3	0.4	20.5	25.1	16.4
Qatar	2011	632	22.7	74.6	2.3	0.3	22.7	25.2	20.2
	2015	772	29.3	67.0	3.4	0.3	29.3	34.8	23.6
Russian Federation	2011	696	39.2	58.9	2.0	0.0	39.2	39.3	39.1
	2015	676	42.4	55.2	2.0	0.4	42.4	37.5	47.1
Saudi Arabia	2011	617	20.8	78.3	0.9	0.0	20.8	24.9	17.0
	2015	544	13.8	83.9	1.8	0.6	13.8	20.1	7.5
Singapore	2011	835	61.8	37.9	0.3	0.0	61.8	64.3	59.4
	2015	871	53.5	46.0	0.2	0.2	53.5	54.6	52.3
Slovenia	2011	632	60.1	38.6	1.3	0.0	60.1	61.8	58.6
	2015	602	54.5	44.9	0.6	0.0	54.5	52.6	56.1
South Africa	2011	1704	7.3	86.9	4.1	1.7	7.3	7.9	6.8
	2015	1798	5.0	89.9	4.5	0.5	5.0	5.9	4.0
Sweden	2011	795	44.0	53.2	2.3	0.5	44.0	46.1	42.1
	2015	584	41.6	55.6	2.2	0.6	41.6	37.9	44.9
Thailand	2011	885	21.0	69.4	9.2	0.4	21.0	23.9	17.6
	2015	922	21.2	74.0	4.4	0.4	21.2	24.6	17.2
Turkey	2011	982	35.3	59.6	4.9	0.2	35.3	44.6	27.0
	2015	864	42.8	56.0	1.2	0.0	42.8	51.6	33.4
United Arab Emirates	2011	2005	30.1	67.0	2.4	0.4	30.1	33.4	26.9
	2015	2565	36.2	62.1	1.7	0.1	36.2	42.4	29.6
United States	2011	1517	39.2	59.8	0.8	0.2	39.2	37.3	41.4
	2015	1457	38.5	59.8	1.2	0.5	38.5	38.6	38.4
International Avg (n=33)	2011	28385	32.9	63.5	3.2	0.4	32.9	34.4	31.4
	2015	31175	31.5	65.2	2.9	0.4	31.5	32.9	30.1
Ontario, Canada	2011	673	22.0	73.7	3.3	1.0	22.0	18.7	25.2
	2015	647	26.0	70.5	2.6	0.9	26.0	26.3	25.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_06 (S052051): Chemistry / Reasoning Type: CR 1 Point
Label: Is element metal or nonmetal

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	25.8	71.3	2.5	0.4	25.8	22.9	29.1
	2015	558	20.0	75.5	3.8	0.7	20.0	15.3	26.0
Norway (8)	2011	557	35.9	62.5	1.7	0.0	35.9	35.8	35.9
	2015	672	29.3	67.7	2.9	0.1	29.3	28.6	30.0
Abu Dhabi, UAE	2011	629	28.8	68.1	2.3	0.7	28.8	29.1	28.5
	2015	689	30.9	66.6	2.4	0.1	30.9	39.4	22.1
Dubai, UAE	2011	784	39.5	58.5	1.4	0.6	39.5	44.8	34.7
	2015	883	47.4	52.3	0.3	0.0	47.4	51.0	43.3
Florida, US	2011	229	38.7	60.3	0.6	0.4	38.7	32.2	45.3
	2015	301	27.6	69.3	1.9	1.2	27.6	25.9	29.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_07 (S052026): Chemistry / Knowing Type: MC Key: D
Label: Example of chemical change

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	44.4	4.3	2.0	47.2	44.4	1.9	0.3	39.8	49.4
	2015	1479	57.5	2.4	1.8	36.6	57.5	1.3	0.3	57.0	58.1
Bahrain	2011	652	76.3	5.6	4.7	12.4	76.3	0.8	0.2	80.3	72.2
	2015	693	76.5	7.0	3.8	11.2	76.5	0.9	0.6	78.4	74.8
Botswana	2011	766	51.0	11.2	8.0	28.3	51.0	0.6	0.8	58.8	42.7
	2015	852	51.8	10.0	6.3	29.3	51.8	1.5	1.2	56.2	47.4
Chile	2011	825	43.0	8.3	2.5	44.0	43.0	1.1	1.0	42.9	43.1
	2015	702	56.8	5.7	1.6	34.0	56.8	1.6	0.3	61.0	53.2
Chinese Taipei	2011	715	83.0	1.2	0.3	15.5	83.0	0.1	0.0	83.9	82.1
	2015	819	81.3	0.7	0.5	17.3	81.3	0.1	0.2	83.4	79.4
England	2011	549	44.4	4.0	1.9	46.7	44.4	2.3	0.6	41.3	47.1
	2015	694	49.7	3.3	1.5	44.2	49.7	0.7	0.6	51.9	47.3
Georgia	2011	658	42.3	15.3	2.0	32.9	42.3	7.0	0.6	47.8	36.5
	2015	575	73.5	4.4	2.3	18.8	73.5	0.6	0.4	80.1	68.1
Hong Kong SAR	2011	570	43.4	4.0	3.0	48.8	43.4	0.5	0.3	46.6	40.2
	2015	583	51.2	3.2	1.7	43.7	51.2	0.0	0.2	52.9	49.5
Hungary	2011	739	75.4	1.9	0.7	19.3	75.4	2.2	0.4	74.5	76.2
	2015	706	74.7	1.8	0.2	19.8	74.7	3.5	0.0	77.4	71.8
Iran, Islamic Rep. of	2011	860	87.2	4.0	2.4	5.5	87.2	0.6	0.4	89.7	85.1
	2015	863	89.9	2.2	1.5	5.4	89.9	0.4	0.6	88.4	91.2
Israel	2011	679	63.7	8.4	3.8	23.0	63.7	0.7	0.3	68.4	58.9
	2015	796	62.7	5.3	3.5	25.5	62.7	1.6	1.4	64.0	61.4
Italy	2011	562	50.3	7.3	3.5	35.7	50.3	2.5	0.8	49.3	51.2
	2015	640	49.8	9.0	2.6	36.6	49.8	1.8	0.2	50.2	49.4
Japan	2011	637	79.8	1.6	1.1	16.6	79.8	0.9	0.0	81.4	78.2
	2015	684	80.7	2.7	0.4	15.9	80.7	0.2	0.0	79.8	81.6
Jordan	2011	1080	78.4	5.2	4.2	10.3	78.4	1.7	0.2	81.1	75.8
	2015	1122	74.3	7.6	3.9	12.9	74.3	1.1	0.1	79.5	68.9
Kazakhstan	2011	624	62.1	11.0	3.4	21.6	62.1	1.5	0.4	60.8	63.4
	2015	695	76.3	7.7	0.9	14.3	76.3	0.7	0.2	77.4	75.3
Korea, Rep. of	2011	741	50.6	5.6	2.0	41.7	50.6	0.0	0.1	49.7	51.5
	2015	765	52.7	3.6	3.1	40.3	52.7	0.3	0.0	58.4	47.2
Lebanon	2011	564	65.8	9.8	5.2	15.2	65.8	2.4	1.5	67.0	64.5
	2015	535	66.5	9.7	6.0	12.5	66.5	4.3	1.0	72.7	60.0
Lithuania	2011	682	54.5	10.1	2.4	29.2	54.5	3.7	0.2	56.8	52.4
	2015	609	48.0	10.9	1.2	38.1	48.0	1.8	0.0	48.2	47.8

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_07 (S052026): Chemistry / Knowing Type: MC Key: D
Label: Example of chemical change

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	42.1	16.2	8.1	32.1	42.1	0.6	0.9	47.6	36.5
	2015	1395	63.6	5.5	5.8	24.1	63.6	0.3	0.6	67.6	59.6
Morocco	2011	1168	48.1	14.0	7.3	23.7	48.1	5.1	1.8	51.3	45.1
	2015	1890	53.0	13.0	6.4	24.9	53.0	2.0	0.7	56.2	50.3
New Zealand	2011	760	49.7	4.2	4.0	40.8	49.7	1.2	0.0	49.6	49.9
	2015	1146	54.2	3.5	1.7	36.6	54.2	3.2	0.7	55.2	53.4
Oman	2011	1371	58.8	10.6	10.4	17.9	58.8	1.6	0.6	61.8	55.9
	2015	1261	63.0	9.7	6.2	20.2	63.0	0.6	0.4	69.2	57.5
Qatar	2011	632	60.2	11.9	4.0	21.5	60.2	2.2	0.3	64.4	55.7
	2015	772	61.7	8.2	5.6	22.3	61.7	1.8	0.4	61.8	61.6
Russian Federation	2011	696	67.6	3.5	1.6	25.6	67.6	1.8	0.0	69.8	65.6
	2015	676	73.8	1.6	0.6	22.1	73.8	1.6	0.4	78.0	69.6
Saudi Arabia	2011	614	76.8	8.7	4.8	9.4	76.8	0.3	0.0	81.2	72.6
	2015	544	68.5	10.9	7.2	11.4	68.5	1.4	0.6	74.4	62.7
Singapore	2011	834	74.3	1.7	1.5	22.3	74.3	0.3	0.0	75.8	72.8
	2015	871	75.6	1.8	1.7	20.7	75.6	0.0	0.2	75.4	75.8
Slovenia	2011	632	68.7	4.2	3.6	20.2	68.7	3.3	0.0	70.7	66.8
	2015	602	71.7	2.0	1.8	21.2	71.7	3.3	0.0	73.1	70.5
South Africa	2011	1704	39.2	20.3	11.6	24.9	39.2	2.1	1.9	39.9	38.4
	2015	1798	43.4	19.2	7.8	27.5	43.4	1.3	0.7	49.2	36.6
Sweden	2011	796	53.8	7.1	0.9	36.2	53.8	1.5	0.5	54.0	53.5
	2015	584	64.7	3.8	0.8	25.7	64.7	4.5	0.6	63.9	65.3
Thailand	2011	885	56.8	3.6	3.7	34.3	56.8	1.1	0.4	62.4	50.3
	2015	922	64.4	3.2	2.3	28.5	64.4	1.2	0.4	68.5	59.6
Turkey	2011	982	66.4	6.0	5.3	21.6	66.4	0.4	0.2	70.5	62.8
	2015	864	70.1	5.9	4.6	19.3	70.1	0.0	0.0	75.0	64.9
United Arab Emirates	2011	2005	70.4	5.6	5.6	16.8	70.4	1.0	0.5	73.0	67.9
	2015	2567	73.5	5.8	4.1	14.9	73.5	1.6	0.1	77.7	69.1
United States	2011	1517	68.5	1.8	1.1	28.0	68.5	0.3	0.4	69.0	67.9
	2015	1457	72.6	2.3	1.4	22.2	72.6	0.9	0.7	74.9	70.2

International Avg (n=33)	2011	28376	60.5	7.2	3.8	26.3	60.5	1.6	0.5	62.5	58.6
	2015	31161	65.1	5.9	3.1	24.2	65.1	1.4	0.4	67.8	62.4

Ontario, Canada	2011	673	53.9	5.3	2.0	35.8	53.9	1.7	1.1	56.2	51.5
	2015	643	53.7	4.3	1.8	38.1	53.7	1.2	0.9	53.9	53.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_07 (S052026): Chemistry / Knowing Type: MC Key: D
Label: Example of chemical change

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	74.0	1.5	0.7	20.3	74.0	3.0	0.4	76.1	71.7
	2015	550	75.8	0.5	2.1	19.3	75.8	0.6	1.7	78.9	71.8
Norway (8)	2011	557	47.8	7.9	2.0	38.5	47.8	3.8	0.0	52.1	43.5
	2015	672	43.0	7.6	2.8	40.7	43.0	5.5	0.5	39.4	46.3
Abu Dhabi, UAE	2011	629	71.2	5.3	6.4	15.3	71.2	1.0	0.9	70.6	71.7
	2015	690	67.7	8.5	5.9	16.0	67.7	1.7	0.1	74.5	60.6
Dubai, UAE	2011	784	69.1	5.0	4.1	20.3	69.1	0.9	0.6	69.9	68.5
	2015	883	80.3	2.9	1.1	14.3	80.3	1.3	0.0	81.5	78.9
Florida, US	2011	229	75.4	1.5	2.2	20.5	75.4	0.0	0.4	77.2	73.6
	2015	301	79.7	4.0	2.0	12.0	79.7	1.2	1.2	80.8	78.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_08 (S052130): Physics / Knowing Type: MC Key: D
Label: Gas inside ping-pong ball

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	29.9	20.6	21.7	26.7	29.9	0.8	0.3	30.2	29.5
	2015	1479	33.8	21.6	18.7	24.4	33.8	1.2	0.3	32.3	35.3
Bahrain	2011	652	29.7	20.1	17.7	30.6	29.7	1.6	0.2	33.7	25.6
	2015	693	32.6	17.9	19.0	29.3	32.6	0.7	0.6	36.6	28.9
Botswana	2011	767	35.1	18.9	22.3	21.6	35.1	1.3	0.8	35.8	34.4
	2015	852	28.5	20.3	23.2	25.4	28.5	1.3	1.3	28.5	28.5
Chile	2011	825	20.9	17.8	15.9	42.9	20.9	1.4	1.0	23.4	17.9
	2015	702	22.2	18.3	15.5	41.7	22.2	2.0	0.3	25.9	19.0
Chinese Taipei	2011	715	55.3	11.1	22.3	11.4	55.3	0.0	0.0	55.4	55.1
	2015	819	59.6	10.7	18.7	10.8	59.6	0.1	0.2	60.8	58.4
England	2011	549	35.6	18.7	17.5	25.6	35.6	2.1	0.6	37.1	34.3
	2015	694	41.6	16.1	16.3	24.3	41.6	1.2	0.6	48.4	34.4
Georgia	2011	0	.	.	.	.	.	.	.	.	.
	2015	575	22.8	23.9	22.3	27.7	22.8	2.9	0.4	21.2	24.1
Hong Kong SAR	2011	570	54.7	18.1	16.3	10.4	54.7	0.2	0.3	56.8	52.7
	2015	583	64.4	12.3	13.8	9.1	64.4	0.3	0.2	63.9	64.8
Hungary	2011	739	47.2	18.1	21.1	12.1	47.2	1.2	0.4	45.9	48.5
	2015	706	53.0	14.9	21.8	9.2	53.0	0.8	0.3	52.8	53.2
Iran, Islamic Rep. of	2011	860	25.0	20.5	19.3	32.2	25.0	2.6	0.5	26.3	23.8
	2015	863	20.0	27.4	23.0	27.4	20.0	1.6	0.6	20.6	19.4
Israel	2011	679	65.8	9.1	12.9	10.4	65.8	1.6	0.4	69.9	61.4
	2015	796	60.1	11.3	12.3	13.6	60.1	1.1	1.6	65.0	55.1
Italy	2011	562	37.5	16.8	21.4	22.1	37.5	1.4	0.8	33.2	41.5
	2015	640	38.9	17.5	17.9	24.1	38.9	1.5	0.2	42.7	35.1
Japan	2011	637	63.6	15.6	8.5	11.8	63.6	0.5	0.0	62.8	64.4
	2015	684	67.0	14.9	8.7	8.8	67.0	0.6	0.0	69.2	64.6
Jordan	2011	1080	31.9	20.0	22.7	24.0	31.9	1.2	0.2	35.9	28.0
	2015	1122	32.6	22.5	19.6	22.8	32.6	2.3	0.1	33.5	31.7
Kazakhstan	2011	624	22.8	18.7	21.8	34.9	22.8	1.3	0.6	21.7	23.9
	2015	695	31.6	18.2	18.3	29.5	31.6	2.3	0.2	31.2	31.9
Korea, Rep. of	2011	741	61.7	10.9	16.9	10.3	61.7	0.0	0.1	64.2	59.1
	2015	765	54.4	14.1	18.4	12.7	54.4	0.5	0.0	57.7	51.2
Lebanon	2011	567	32.1	20.7	13.0	29.2	32.1	3.2	1.8	31.8	32.3
	2015	544	32.7	18.3	17.2	25.6	32.7	5.1	1.1	34.9	30.3
Lithuania	2011	682	50.3	11.8	19.0	16.2	50.3	2.6	0.2	50.1	50.4
	2015	609	50.9	13.0	17.1	17.4	50.9	1.6	0.0	51.7	50.2

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_08 (S052130): Physics / Knowing Type: MC Key: D
Label: Gas inside ping-pong ball

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	19.1	15.0	21.6	42.3	19.1	0.9	1.1	18.6	19.7
	2015	1395	46.3	13.1	17.9	20.7	46.3	1.3	0.8	52.9	39.9
Morocco	2011	1166	25.9	24.4	13.4	29.5	25.9	4.6	2.2	24.8	26.9
	2015	1889	30.0	22.2	14.4	29.6	30.0	3.0	0.7	29.5	30.5
New Zealand	2011	760	30.2	17.5	20.8	29.4	30.2	2.1	0.0	29.8	30.5
	2015	1146	30.3	21.5	18.2	27.1	30.3	2.1	0.8	29.9	30.7
Oman	2011	1371	32.0	23.8	18.5	23.1	32.0	1.9	0.6	36.3	27.8
	2015	1262	29.9	24.3	22.3	21.7	29.9	1.4	0.4	33.0	27.1
Qatar	2011	632	32.9	18.8	22.3	24.5	32.9	0.9	0.5	34.4	31.3
	2015	772	36.3	19.5	22.9	19.1	36.3	1.8	0.4	40.2	32.2
Russian Federation	2011	696	36.9	15.3	19.3	26.3	36.9	2.1	0.0	37.8	36.1
	2015	676	38.7	12.0	16.1	31.1	38.7	1.7	0.4	35.9	41.4
Saudi Arabia	2011	615	41.8	23.3	14.2	20.0	41.8	0.7	0.0	51.3	33.1
	2015	544	29.3	22.3	20.6	26.6	29.3	0.7	0.6	32.4	26.1
Singapore	2011	835	50.8	15.6	19.3	14.1	50.8	0.1	0.0	49.6	52.0
	2015	871	55.9	16.0	18.0	9.6	55.9	0.2	0.2	54.2	57.8
Slovenia	2011	632	49.4	16.4	19.7	13.3	49.4	1.1	0.0	45.8	52.7
	2015	602	56.4	12.7	15.8	13.6	56.4	1.5	0.0	57.4	55.5
South Africa	2011	1704	33.2	18.4	15.8	28.6	33.2	2.1	1.9	34.0	32.4
	2015	1798	33.1	17.5	17.2	29.1	33.1	2.4	0.8	34.5	31.4
Sweden	2011	796	21.1	13.5	16.3	47.4	21.1	1.1	0.5	21.9	20.4
	2015	584	28.5	14.1	17.8	35.5	28.5	3.5	0.6	26.2	30.4
Thailand	2011	885	24.6	19.1	16.6	38.0	24.6	1.0	0.6	24.9	24.3
	2015	922	23.0	19.1	16.3	40.2	23.0	1.0	0.4	25.1	20.6
Turkey	2011	982	32.5	18.3	27.5	20.8	32.5	0.6	0.2	33.5	31.6
	2015	864	33.8	17.5	29.8	18.3	33.8	0.6	0.0	34.8	32.7
United Arab Emirates	2011	2005	31.6	19.5	22.0	25.0	31.6	1.4	0.5	34.2	28.9
	2015	2567	34.6	17.8	18.9	25.8	34.6	2.8	0.1	36.9	32.2
United States	2011	1517	37.1	15.9	25.3	19.9	37.1	1.5	0.4	39.4	34.5
	2015	1457	41.1	15.5	23.1	18.3	41.1	1.3	0.8	41.5	40.6

International Avg (n=33)	2011	27722	37.4	17.6	18.8	24.2	37.4	1.4	0.5	38.5	36.4
	2015	31170	39.2	17.5	18.5	22.7	39.2	1.6	0.4	40.7	37.7

Ontario, Canada	2011	673	39.8	16.8	17.5	23.3	39.8	1.3	1.2	43.0	36.9
	2015	646	40.9	17.7	19.3	19.4	40.9	1.2	1.5	42.8	38.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_08 (S052130): Physics / Knowing Type: MC Key: D
Label: Gas inside ping-pong ball

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	34.8	15.8	13.9	34.2	34.8	0.8	0.4	36.0	33.5
	2015	555	41.1	15.1	13.8	27.3	41.1	1.0	1.7	43.1	38.6
Norway (8)	2011	557	23.0	16.9	17.8	41.4	23.0	0.9	0.0	25.1	21.0
	2015	672	25.4	16.1	22.2	34.6	25.4	1.2	0.5	23.2	27.4
Abu Dhabi, UAE	2011	629	31.4	20.4	21.6	24.4	31.4	1.4	0.9	34.3	28.7
	2015	690	33.7	19.1	19.0	25.1	33.7	3.0	0.1	42.8	24.3
Dubai, UAE	2011	784	32.1	20.0	20.2	25.5	32.1	1.5	0.6	38.2	26.6
	2015	883	38.7	17.4	18.6	24.5	38.7	0.8	0.0	35.1	42.6
Florida, US	2011	229	46.2	18.5	19.2	15.3	46.2	0.4	0.4	48.4	43.9
	2015	301	40.4	16.9	23.2	17.7	40.4	0.6	1.2	41.2	39.5

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_09 (S052028): Physics / Applying Type: MC Key: A
Label: Electromagnet attracting needles

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	60.4	60.4	5.5	24.6	7.8	1.4	0.3	55.8	65.4
	2015	1479	62.1	62.1	5.7	22.6	8.5	0.8	0.3	57.2	67.1
Bahrain	2011	652	51.9	51.9	12.0	22.5	12.0	1.3	0.3	52.2	51.6
	2015	693	42.5	42.5	10.6	26.5	18.8	0.8	0.7	37.8	46.9
Botswana	2011	767	52.7	52.7	12.0	24.8	9.4	0.1	1.0	46.2	59.7
	2015	852	57.6	57.6	11.7	15.4	12.5	1.1	1.8	52.2	63.0
Chile	2011	825	56.1	56.1	5.7	22.9	12.7	1.4	1.3	51.4	61.7
	2015	702	61.1	61.1	3.9	23.4	9.3	1.9	0.3	57.5	64.2
Chinese Taipei	2011	715	76.9	76.9	3.5	10.9	8.5	0.1	0.0	74.9	78.9
	2015	819	76.8	76.8	2.9	12.5	7.6	0.0	0.2	74.4	79.0
England	2011	549	61.4	61.4	2.9	21.5	11.2	1.9	1.0	58.7	63.8
	2015	694	60.3	60.3	3.2	24.6	11.2	0.1	0.6	59.3	61.4
Georgia	2011	658	46.8	46.8	6.9	21.0	18.6	6.0	0.7	49.3	44.3
	2015	575	45.5	45.5	11.8	20.9	17.6	3.8	0.4	44.4	46.4
Hong Kong SAR	2011	570	62.6	62.6	4.0	16.2	16.1	0.9	0.3	61.2	63.9
	2015	583	66.4	66.4	2.7	14.3	16.3	0.2	0.2	60.9	72.1
Hungary	2011	739	50.6	50.6	10.1	26.1	11.9	0.9	0.4	46.7	54.5
	2015	706	52.4	52.4	9.6	26.5	10.7	0.5	0.3	47.8	57.1
Iran, Islamic Rep. of	2011	860	58.3	58.3	5.2	20.2	14.0	1.4	1.0	57.9	58.6
	2015	863	61.4	61.4	2.8	20.0	14.0	1.3	0.6	56.7	65.6
Israel	2011	679	56.8	56.8	6.5	20.2	15.4	0.5	0.5	51.2	62.6
	2015	796	58.6	58.6	6.2	20.4	12.0	1.3	1.6	52.9	64.4
Italy	2011	562	42.3	42.3	8.6	33.1	13.2	2.0	0.8	38.4	46.1
	2015	640	43.4	43.4	7.0	32.2	14.6	2.4	0.5	37.9	48.9
Japan	2011	637	86.5	86.5	3.4	7.2	2.4	0.6	0.0	85.7	87.2
	2015	684	86.3	86.3	2.8	8.4	2.2	0.4	0.0	84.2	88.5
Jordan	2011	1080	46.4	46.4	10.2	26.9	15.1	1.2	0.2	41.2	51.3
	2015	1122	44.2	44.2	9.7	25.1	18.6	2.0	0.4	41.8	46.6
Kazakhstan	2011	624	43.5	43.5	15.0	23.6	13.9	3.2	0.8	37.7	49.5
	2015	695	57.4	57.4	11.2	16.9	12.9	1.4	0.2	52.8	61.6
Korea, Rep. of	2011	741	76.1	76.1	3.0	12.9	8.0	0.0	0.1	75.8	76.4
	2015	765	66.9	66.9	5.8	18.6	8.3	0.3	0.0	63.0	70.6
Lebanon	2011	565	35.0	35.0	12.4	29.2	15.7	5.9	1.8	28.3	42.6
	2015	542	39.3	39.3	14.6	22.1	15.0	7.0	1.9	34.0	45.2
Lithuania	2011	682	52.6	52.6	4.9	22.5	17.4	2.4	0.2	48.5	56.4
	2015	609	52.0	52.0	5.4	23.9	17.3	1.4	0.0	51.3	52.6

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_09 (S052028): Physics / Applying Type: MC Key: A
Label: Electromagnet attracting needles

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	55.8	55.8	8.3	19.6	14.5	0.8	1.1	49.3	62.4
	2015	1395	72.7	72.7	4.2	10.1	11.3	0.6	1.0	70.3	75.1
Morocco	2011	1173	38.9	38.9	15.2	24.8	15.0	3.4	2.8	35.5	42.0
	2015	1889	39.9	39.9	13.2	25.7	17.1	3.2	0.8	34.1	44.8
New Zealand	2011	760	52.0	52.0	7.0	28.1	11.3	1.4	0.2	44.6	58.6
	2015	1146	51.0	51.0	6.3	28.1	10.9	2.9	0.8	45.7	55.8
Oman	2011	1371	39.3	39.3	13.5	28.9	15.9	1.7	0.7	36.4	42.2
	2015	1262	47.5	47.5	9.1	23.4	18.3	1.3	0.4	49.2	46.0
Qatar	2011	632	47.5	47.5	13.9	22.7	14.1	1.2	0.5	46.8	48.4
	2015	772	49.1	49.1	11.0	23.4	13.7	2.5	0.4	47.3	50.8
Russian Federation	2011	696	57.4	57.4	3.3	25.9	12.0	1.2	0.3	49.2	64.6
	2015	676	56.2	56.2	3.7	23.6	13.8	2.3	0.4	51.9	60.3
Saudi Arabia	2011	616	39.9	39.9	13.7	29.0	17.2	0.0	0.3	38.0	41.7
	2015	541	37.0	37.0	17.4	28.0	15.8	1.2	0.6	39.8	34.2
Singapore	2011	835	82.6	82.6	1.9	8.2	7.3	0.0	0.0	80.2	84.7
	2015	871	90.2	90.2	1.9	3.6	3.9	0.2	0.2	89.0	91.4
Slovenia	2011	632	68.5	68.5	2.6	15.6	12.2	1.1	0.0	64.9	71.9
	2015	602	63.8	63.8	2.7	18.6	13.3	1.6	0.0	59.2	67.7
South Africa	2011	1704	44.4	44.4	17.9	18.2	14.9	2.2	2.4	40.2	48.6
	2015	1798	51.0	51.0	16.0	18.1	12.1	1.6	1.2	47.0	55.5
Sweden	2011	796	54.8	54.8	4.8	21.3	16.1	2.4	0.6	53.2	56.1
	2015	584	55.8	55.8	4.6	20.3	14.9	3.2	1.2	51.9	59.3
Thailand	2011	885	42.0	42.0	4.9	27.8	23.3	1.4	0.7	38.6	45.9
	2015	922	45.6	45.6	5.5	24.7	21.7	2.1	0.5	43.1	48.4
Turkey	2011	982	54.3	54.3	5.1	26.4	13.2	0.7	0.2	56.8	52.1
	2015	864	48.6	48.6	5.2	30.1	15.7	0.1	0.2	43.8	53.9
United Arab Emirates	2011	2005	47.3	47.3	11.0	24.4	15.5	1.2	0.6	44.3	50.4
	2015	2567	50.1	50.1	11.4	22.1	13.5	2.8	0.1	48.6	51.8
United States	2011	1517	58.5	58.5	7.3	24.2	8.6	1.0	0.4	52.1	65.5
	2015	1457	59.8	59.8	6.0	22.8	9.7	0.9	1.0	56.2	63.3

International Avg (n=33)	2011	28386	54.6	54.6	7.9	22.2	13.2	1.5	0.6	51.2	57.9
	2015	31165	56.1	56.1	7.4	21.1	13.1	1.6	0.6	52.8	59.4

Ontario, Canada	2011	673	50.6	50.6	8.7	26.5	11.0	1.8	1.4	45.2	55.3
	2015	647	49.4	49.4	8.1	27.5	11.9	1.1	1.9	45.9	53.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_09 (S052028): Physics / Applying Type: MC Key: A
Label: Electromagnet attracting needles

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	49.3	49.3	7.9	32.7	8.3	1.4	0.4	45.0	54.3
	2015	555	49.3	49.3	8.5	30.2	9.0	1.2	1.7	47.3	51.7
Norway (8)	2011	557	49.7	49.7	12.1	23.2	12.8	2.2	0.0	45.1	54.4
	2015	672	44.6	44.6	12.2	23.9	17.1	1.7	0.5	37.1	51.5
Abu Dhabi, UAE	2011	629	44.1	44.1	13.1	26.3	14.6	1.1	0.9	39.3	48.5
	2015	690	51.4	51.4	12.3	21.5	12.0	2.7	0.1	52.7	50.0
Dubai, UAE	2011	784	55.7	55.7	6.6	20.9	14.6	1.4	0.7	53.4	57.9
	2015	883	55.4	55.4	7.6	22.6	12.7	1.7	0.0	51.5	59.8
Florida, US	2011	229	59.5	59.5	4.0	28.8	6.3	1.0	0.4	52.5	66.5
	2015	301	55.4	55.4	7.3	23.1	11.2	1.8	1.2	56.0	54.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_10 (S052189): Chemistry / Reasoning Type: CR 1 Point
Label: Paint chip in test tubes

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	2.4	44.8	51.0	1.5	0.3	47.1	48.3	45.9
	2015	1479	2.0	40.8	55.1	1.8	0.3	42.8	46.4	39.0
Bahrain	2011	652	9.3	28.3	60.7	1.4	0.3	37.6	49.8	25.0
	2015	693	11.7	27.1	56.6	3.8	0.7	38.9	48.5	30.0
Botswana	2011	768	2.0	19.6	75.1	2.2	1.0	21.7	22.4	20.9
	2015	854	4.3	16.0	75.6	2.1	2.0	20.3	22.6	18.1
Chile	2011	825	2.1	36.4	56.0	4.1	1.3	38.6	41.2	35.5
	2015	702	12.1	16.0	67.8	3.7	0.5	28.1	27.5	28.6
Chinese Taipei	2011	715	1.5	65.8	32.6	0.1	0.0	67.3	70.0	64.6
	2015	819	3.1	49.0	47.3	0.5	0.2	52.1	59.6	45.2
England	2011	549	2.2	49.9	45.4	1.4	1.0	52.1	60.4	45.0
	2015	694	7.8	47.8	42.1	1.8	0.6	55.5	61.0	49.8
Georgia	2011	658	1.7	20.4	64.4	12.8	0.7	22.1	28.5	15.5
	2015	575	4.3	23.7	65.2	6.1	0.7	28.0	31.8	24.9
Hong Kong SAR	2011	570	5.1	41.5	52.4	0.7	0.3	46.6	49.5	43.8
	2015	583	6.7	49.4	43.4	0.4	0.2	56.1	59.9	52.2
Hungary	2011	739	2.7	49.4	47.3	0.2	0.4	52.1	51.3	52.9
	2015	706	7.9	51.6	39.5	0.7	0.3	59.5	59.6	59.4
Iran, Islamic Rep. of	2011	860	6.3	25.1	64.8	2.7	1.1	31.4	37.6	26.1
	2015	863	2.3	26.2	67.3	3.4	0.7	28.6	33.2	24.4
Israel	2011	679	4.9	33.1	59.2	2.2	0.5	38.0	40.5	35.5
	2015	796	11.8	32.5	51.4	2.7	1.6	44.3	48.6	39.8
Italy	2011	562	0.7	38.7	54.8	5.0	0.8	39.5	40.4	38.6
	2015	639	0.6	46.2	50.1	2.7	0.5	46.8	52.3	41.3
Japan	2011	637	4.0	63.3	31.7	1.0	0.0	67.3	69.4	65.1
	2015	684	7.7	58.6	33.5	0.2	0.0	66.3	75.4	56.5
Jordan	2011	1080	9.5	18.6	69.5	2.0	0.4	28.1	32.7	23.8
	2015	1122	9.4	2.9	84.9	2.3	0.6	12.2	17.8	6.5
Kazakhstan	2011	623	28.4	11.5	49.5	9.8	0.8	39.9	40.9	38.8
	2015	695	51.8	0.0	28.7	19.3	0.2	51.8	58.9	45.5
Korea, Rep. of	2011	741	2.7	76.0	21.0	0.1	0.1	78.7	82.1	75.2
	2015	765	3.5	59.3	35.8	1.4	0.0	62.8	68.7	57.2
Lebanon	2011	569	3.0	21.8	66.5	6.8	1.8	24.9	25.8	23.8
	2015	551	2.0	15.0	72.3	8.7	1.9	17.1	15.9	18.3
Lithuania	2011	682	3.5	52.6	42.8	0.9	0.2	56.1	61.6	51.0
	2015	609	7.0	53.1	38.6	1.3	0.0	60.1	62.8	57.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_10 (S052189): Chemistry / Reasoning Type: CR 1 Point
Label: Paint chip in test tubes

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	6.1	19.0	70.5	3.4	1.1	25.0	27.0	23.0
	2015	1395	12.1	11.5	71.2	4.2	1.0	23.6	23.8	23.3
Morocco	2011	1176	1.1	1.7	88.5	6.0	2.8	2.8	4.0	1.6
	2015	1892	8.5	0.7	84.0	5.7	1.0	9.2	9.9	8.6
New Zealand	2011	760	3.2	40.9	53.6	2.2	0.2	44.1	46.0	42.4
	2015	1146	5.8	44.5	46.6	2.3	0.8	50.2	57.1	43.9
Oman	2011	1371	3.2	13.7	79.0	3.4	0.7	16.9	23.3	10.5
	2015	1256	3.1	18.7	75.5	2.1	0.5	21.8	28.2	16.1
Qatar	2011	632	3.9	19.3	74.8	1.3	0.6	23.2	24.9	21.4
	2015	772	10.4	16.7	70.3	2.3	0.4	27.1	32.9	21.1
Russian Federation	2011	696	5.0	51.7	38.6	4.4	0.3	56.7	59.9	53.9
	2015	676	6.8	51.1	38.7	3.1	0.4	57.9	55.4	60.3
Saudi Arabia	2011	617	0.6	20.7	78.2	0.2	0.3	21.3	24.4	18.3
	2015	544	4.8	5.8	86.3	2.5	0.6	10.6	15.9	5.4
Singapore	2011	835	9.9	53.6	36.5	0.1	0.0	63.4	65.6	61.4
	2015	871	8.8	55.2	35.5	0.3	0.2	64.0	68.7	58.8
Slovenia	2011	632	2.6	48.3	48.1	1.0	0.0	50.8	55.1	47.0
	2015	602	33.4	17.6	48.6	0.4	0.0	50.9	54.1	48.2
South Africa	2011	1704	4.8	5.8	83.9	2.6	2.9	10.6	10.5	10.8
	2015	1798	3.1	6.3	86.0	3.1	1.4	9.5	12.4	6.1
Sweden	2011	796	3.1	40.6	53.3	2.4	0.6	43.7	51.5	36.8
	2015	584	9.9	44.2	43.3	1.4	1.2	54.1	55.2	53.1
Thailand	2011	885	0.9	25.3	62.3	10.9	0.7	26.2	26.8	25.5
	2015	923	2.0	26.2	65.6	5.5	0.7	28.2	31.9	23.8
Turkey	2011	982	1.2	32.2	60.4	5.9	0.3	33.4	35.9	31.2
	2015	864	7.4	31.5	60.0	0.9	0.2	38.9	45.9	31.4
United Arab Emirates	2011	2005	2.7	29.8	64.7	2.2	0.6	32.5	37.6	27.3
	2015	2567	3.6	32.0	62.0	2.4	0.1	35.5	40.0	30.8
United States	2011	1517	2.6	45.7	49.7	1.5	0.5	48.3	49.7	46.7
	2015	1457	5.9	51.6	40.7	0.9	1.0	57.5	58.6	56.4

International Avg (n=33)	2011	28394	4.3	34.7	57.2	3.1	0.7	39.0	42.3	35.9
	2015	31176	8.5	31.2	56.6	3.0	0.6	39.7	43.6	35.8

Ontario, Canada	2011	673	13.6	41.1	40.4	3.3	1.6	54.7	57.2	52.5
	2015	647	17.5	34.4	42.9	3.1	2.1	51.9	53.3	50.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_10 (S052189): Chemistry / Reasoning Type: CR 1 Point
Label: Paint chip in test tubes

COUNTRY	Year	N	10 %	11 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	12.4	40.9	43.0	2.9	0.8	53.3	54.6	51.9
	2015	558	3.7	47.9	43.3	3.4	1.7	51.6	54.2	48.4
Norway (8)	2011	557	3.3	44.3	50.8	1.6	0.0	47.6	55.7	39.5
	2015	672	4.2	42.3	50.1	2.9	0.5	46.5	53.3	40.3
Abu Dhabi, UAE	2011	629	2.8	29.8	64.2	2.2	1.0	32.6	35.3	30.1
	2015	690	4.4	29.6	63.6	2.3	0.1	34.0	39.8	28.0
Dubai, UAE	2011	784	3.4	34.4	58.8	2.4	0.9	37.9	44.6	31.7
	2015	883	5.7	39.5	52.8	1.9	0.1	45.2	49.4	40.6
Florida, US	2011	229	3.3	43.2	52.5	0.6	0.4	46.5	42.9	50.2
	2015	301	2.9	50.8	44.3	0.8	1.2	53.7	57.8	49.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_11 (S052217): Physics / Applying Type: MC Key: B
Label: Water pressure on fish

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	48.8	9.2	48.8	26.6	13.6	1.1	0.5	47.5	50.3
	2015	1479	54.8	5.2	54.8	29.1	8.9	1.7	0.4	49.9	59.8
Bahrain	2011	652	37.8	15.6	37.8	21.9	22.1	2.0	0.7	39.3	36.3
	2015	693	42.6	13.3	42.6	20.3	21.9	1.1	0.7	42.1	43.0
Botswana	2011	768	36.8	14.4	36.8	27.3	19.1	1.3	1.2	37.3	36.2
	2015	854	38.0	12.6	38.0	21.2	22.4	3.5	2.4	39.4	36.6
Chile	2011	825	42.9	10.0	42.9	25.4	18.1	1.6	2.0	42.4	43.5
	2015	702	45.4	7.8	45.4	28.2	16.2	1.7	0.7	46.4	44.6
Chinese Taipei	2011	715	63.0	5.3	63.0	27.0	4.5	0.1	0.0	59.9	66.1
	2015	819	60.2	4.8	60.2	29.0	5.4	0.4	0.2	58.8	61.5
England	2011	549	54.9	9.5	54.9	23.5	10.3	0.8	1.0	55.4	54.5
	2015	694	52.3	7.7	52.3	26.6	11.4	1.5	0.6	52.7	51.9
Georgia	2011	658	34.4	18.8	34.4	16.2	26.5	3.4	0.7	33.1	35.8
	2015	575	38.8	10.1	38.8	20.0	27.0	2.9	1.1	42.9	35.5
Hong Kong SAR	2011	570	52.4	6.0	52.4	33.4	7.3	0.5	0.3	45.4	59.4
	2015	583	49.2	6.5	49.2	38.3	5.5	0.3	0.2	45.0	53.4
Hungary	2011	739	50.8	6.8	50.8	28.5	12.0	1.5	0.4	41.6	60.0
	2015	706	53.7	7.6	53.7	30.0	7.6	0.6	0.6	52.3	55.1
Iran, Islamic Rep. of	2011	860	35.6	10.7	35.6	24.9	25.9	1.8	1.1	32.3	38.4
	2015	862	35.0	11.9	35.0	26.1	23.7	2.4	0.8	32.3	37.5
Israel	2011	679	52.3	7.4	52.3	22.0	15.1	2.7	0.5	51.1	53.5
	2015	796	51.6	6.0	51.6	23.3	14.9	2.3	1.9	52.1	51.1
Italy	2011	562	47.1	5.5	47.1	29.6	13.6	3.3	0.8	43.8	50.3
	2015	640	40.7	8.1	40.7	35.0	13.8	1.9	0.5	39.5	41.8
Japan	2011	637	64.4	2.6	64.4	31.2	1.2	0.6	0.0	58.1	70.6
	2015	684	64.8	1.8	64.8	30.7	2.6	0.1	0.0	57.4	72.8
Jordan	2011	1080	30.4	12.9	30.4	26.9	28.0	1.2	0.4	30.7	30.2
	2015	1122	31.6	14.3	31.6	25.9	25.5	1.9	0.8	30.6	32.6
Kazakhstan	2011	624	44.5	14.8	44.5	16.7	20.1	3.0	0.9	47.6	41.2
	2015	695	56.0	15.5	56.0	13.3	12.9	2.2	0.2	56.6	55.4
Korea, Rep. of	2011	741	51.3	1.4	51.3	44.1	2.9	0.3	0.1	49.9	52.7
	2015	765	44.3	3.7	44.3	46.0	5.3	0.7	0.0	41.1	47.3
Lebanon	2011	562	44.8	12.5	44.8	18.8	17.3	4.8	1.9	40.1	50.1
	2015	545	47.3	8.0	47.3	19.6	15.1	8.0	2.0	49.6	44.7
Lithuania	2011	682	55.0	8.2	55.0	21.7	13.8	1.1	0.2	56.3	53.9
	2015	609	56.6	9.5	56.6	21.6	11.5	0.7	0.0	55.6	57.6

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_11 (S052217): Physics / Applying Type: MC Key: B
Label: Water pressure on fish

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	36.7	12.3	36.7	25.2	22.8	1.1	1.8	34.9	38.6
	2015	1395	39.6	17.8	39.6	23.0	16.8	1.0	1.8	39.0	40.2
Morocco	2011	1171	33.0	16.3	33.0	25.0	17.5	5.3	2.9	33.8	32.2
	2015	1891	29.1	15.7	29.1	22.2	28.7	3.2	1.1	28.6	29.5
New Zealand	2011	760	53.4	8.9	53.4	23.4	11.2	3.0	0.2	50.1	56.2
	2015	1146	54.0	7.1	54.0	24.6	11.3	2.2	0.8	53.8	54.2
Oman	2011	1371	33.2	15.8	33.2	24.1	24.6	1.5	0.8	35.3	31.2
	2015	1260	36.9	11.7	36.9	24.0	25.4	1.4	0.5	38.1	35.8
Qatar	2011	632	42.2	10.3	42.2	23.4	21.1	2.3	0.7	44.4	39.9
	2015	772	48.0	11.4	48.0	18.4	20.2	1.6	0.4	50.7	45.3
Russian Federation	2011	696	61.1	6.3	61.1	22.5	7.2	2.7	0.3	55.9	65.6
	2015	676	59.6	6.7	59.6	21.4	8.9	2.9	0.4	54.5	64.6
Saudi Arabia	2011	616	31.9	18.6	31.9	23.8	25.0	0.5	0.3	30.4	33.3
	2015	544	29.7	17.2	29.7	24.5	25.6	1.8	1.2	29.4	30.0
Singapore	2011	835	58.6	9.3	58.6	21.2	10.4	0.5	0.0	57.8	59.2
	2015	871	57.7	7.1	57.7	26.2	8.0	0.8	0.2	57.2	58.2
Slovenia	2011	632	61.5	5.6	61.5	25.0	6.9	1.0	0.0	57.3	65.3
	2015	602	54.8	3.4	54.8	32.2	7.6	1.8	0.0	48.2	60.5
South Africa	2011	1704	34.9	27.3	34.9	15.9	14.6	4.0	3.2	34.8	35.1
	2015	1798	34.7	25.0	34.7	17.7	19.2	1.7	1.6	35.2	34.1
Sweden	2011	796	52.6	5.5	52.6	29.6	10.7	1.0	0.6	47.5	57.1
	2015	584	54.9	3.7	54.9	31.0	6.8	2.4	1.2	51.1	58.3
Thailand	2011	885	37.4	7.8	37.4	18.3	33.9	1.7	0.9	36.0	39.1
	2015	923	40.8	7.1	40.8	21.9	27.2	2.4	0.7	42.1	39.2
Turkey	2011	982	45.6	11.2	45.6	19.9	21.9	1.0	0.4	46.1	45.1
	2015	864	52.0	6.4	52.0	19.5	21.4	0.4	0.2	55.8	47.9
United Arab Emirates	2011	2005	44.1	12.7	44.1	22.2	19.2	1.1	0.8	43.2	44.9
	2015	2567	52.2	9.8	52.2	21.9	14.3	1.4	0.3	54.1	50.2
United States	2011	1517	61.4	7.2	61.4	21.3	9.0	0.7	0.5	60.3	62.6
	2015	1457	59.4	6.2	59.4	22.4	9.4	1.4	1.2	63.3	55.5

International Avg (n=33)	2011	28382	46.5	10.5	46.5	24.4	16.0	1.8	0.8	44.8	48.1
	2015	31173	47.5	9.4	47.5	25.3	15.2	1.8	0.8	46.8	48.1

Ontario, Canada	2011	673	49.5	7.1	49.5	26.8	12.3	2.2	2.1	47.3	51.4
	2015	646	55.6	4.3	55.6	26.0	9.9	1.8	2.4	53.4	57.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_11 (S052217): Physics / Applying Type: MC Key: B
Label: Water pressure on fish

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	58.0	7.7	58.0	23.2	9.1	1.3	0.8	54.4	62.2
	2015	556	51.3	6.9	51.3	27.5	11.7	0.4	2.2	45.3	58.5
Norway (8)	2011	557	53.8	4.4	53.8	31.0	9.6	1.3	0.0	49.7	57.9
	2015	672	56.7	4.0	56.7	26.8	9.6	1.6	1.1	53.5	59.8
Abu Dhabi, UAE	2011	629	44.8	13.5	44.8	22.2	16.9	1.4	1.1	38.6	50.5
	2015	690	47.3	11.8	47.3	22.2	17.5	1.2	0.1	50.6	43.8
Dubai, UAE	2011	784	45.5	11.6	45.5	23.8	16.9	1.1	1.1	46.2	44.8
	2015	883	59.2	7.1	59.2	20.9	11.5	0.8	0.5	58.0	60.5
Florida, US	2011	229	62.6	5.3	62.6	20.9	10.1	0.8	0.4	67.0	58.1
	2015	301	61.5	6.4	61.5	19.2	9.7	1.9	1.2	62.2	60.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_12 (S052038): Earth Science / Knowing Type: MC Key: C
Label: Energy for water cycle

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	59.7	13.7	10.0	59.7	15.4	0.6	0.6	58.7	60.8
	2015	1479	60.0	15.0	10.8	60.0	12.0	1.6	0.6	61.7	58.3
Bahrain	2011	652	47.1	19.2	10.6	47.1	21.4	1.0	0.7	59.5	34.3
	2015	693	51.7	15.4	8.1	51.7	23.6	0.3	0.9	58.7	45.2
Botswana	2011	768	51.9	17.4	14.2	51.9	14.1	0.7	1.8	50.7	53.1
	2015	854	45.6	15.3	16.1	45.6	17.7	1.1	4.2	44.2	46.9
Chile	2011	825	30.1	15.5	11.4	30.1	38.4	1.7	2.8	26.0	35.0
	2015	702	30.3	15.3	11.1	30.3	39.9	2.6	0.8	23.9	35.6
Chinese Taipei	2011	715	39.5	5.6	4.1	39.5	50.7	0.0	0.1	36.8	42.2
	2015	819	42.1	5.3	2.3	42.1	49.8	0.1	0.3	39.4	44.6
England	2011	549	46.3	18.5	9.2	46.3	24.3	0.6	1.0	48.0	44.8
	2015	694	52.8	15.6	9.3	52.8	20.5	1.2	0.6	53.0	52.6
Georgia	2011	658	16.9	42.0	28.5	16.9	9.9	2.0	0.7	17.2	16.6
	2015	575	18.9	43.8	20.0	18.9	14.4	1.8	1.2	14.6	22.3
Hong Kong SAR	2011	570	36.0	7.7	18.9	36.0	36.8	0.3	0.3	32.4	39.6
	2015	583	47.5	6.5	15.1	47.5	30.7	0.0	0.2	40.6	54.4
Hungary	2011	739	40.9	25.0	15.6	40.9	16.9	1.1	0.5	37.4	44.3
	2015	706	46.3	26.5	13.0	46.3	11.7	1.8	0.7	47.1	45.5
Iran, Islamic Rep. of	2011	860	30.4	26.6	17.5	30.4	22.9	1.3	1.3	29.1	31.6
	2015	862	29.5	30.1	15.0	29.5	23.5	0.6	1.4	23.8	34.6
Israel	2011	679	54.7	21.5	12.0	54.7	10.4	0.7	0.7	55.4	53.9
	2015	796	48.3	21.1	12.0	48.3	14.9	1.4	2.3	47.5	49.0
Italy	2011	562	47.3	19.4	15.5	47.3	15.5	1.5	0.8	45.6	48.9
	2015	640	58.5	15.5	9.3	58.5	14.9	1.2	0.6	57.5	59.5
Japan	2011	637	48.5	16.2	12.8	48.5	22.1	0.5	0.0	48.8	48.1
	2015	684	54.0	11.4	8.3	54.0	25.7	0.7	0.0	55.1	52.7
Jordan	2011	1080	48.6	23.8	9.6	48.6	16.6	0.9	0.5	52.6	44.8
	2015	1122	52.4	20.6	7.0	52.4	17.3	1.9	0.8	59.5	45.0
Kazakhstan	2011	624	34.1	27.8	11.5	34.1	23.2	2.1	1.3	31.7	36.5
	2015	695	45.6	17.1	12.9	45.6	22.7	1.3	0.4	46.5	44.9
Korea, Rep. of	2011	741	17.5	32.6	26.2	17.5	23.5	0.1	0.1	12.6	22.5
	2015	765	26.1	38.6	9.5	26.1	25.8	0.0	0.0	25.2	27.0
Lebanon	2011	567	37.2	25.2	12.8	37.2	21.0	1.7	2.1	37.2	37.1
	2015	547	38.3	22.2	15.2	38.3	16.5	5.7	2.1	37.4	39.3
Lithuania	2011	682	26.4	29.5	13.6	26.4	26.6	3.7	0.2	25.9	26.9
	2015	609	34.3	27.6	14.3	34.3	21.8	1.9	0.0	32.6	36.0

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

S11_12 (S052038): Earth Science / Knowing Type: MC Key: C
Label: Energy for water cycle

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	32.5	18.0	19.0	32.5	27.6	0.8	2.1	32.1	32.9
	2015	1395	43.6	11.2	12.7	43.6	29.7	0.4	2.3	41.5	45.7
Morocco	2011	1169	22.3	36.5	10.0	22.3	24.5	3.4	3.2	20.9	23.6
	2015	1891	27.3	35.7	13.3	27.3	20.2	2.2	1.3	26.7	27.9
New Zealand	2011	760	52.8	13.6	14.8	52.8	16.2	1.3	1.2	54.6	51.2
	2015	1146	53.3	12.2	13.6	53.3	17.8	1.7	1.4	55.9	50.9
Oman	2011	1371	64.0	14.6	7.6	64.0	11.9	1.0	0.9	71.2	56.9
	2015	1262	69.3	13.8	4.4	69.3	11.4	0.4	0.7	79.9	59.8
Qatar	2011	632	50.8	20.4	12.7	50.8	13.8	1.1	1.2	53.1	48.4
	2015	772	46.7	17.3	13.5	46.7	20.9	0.9	0.6	49.3	44.0
Russian Federation	2011	696	41.5	28.9	10.7	41.5	16.1	1.6	1.2	41.1	42.0
	2015	676	50.0	21.0	12.4	50.0	14.4	1.8	0.4	49.7	50.2
Saudi Arabia	2011	615	48.4	23.4	7.0	48.4	20.7	0.2	0.3	54.1	43.0
	2015	544	40.2	20.7	9.6	40.2	26.3	2.0	1.2	45.6	34.7
Singapore	2011	835	70.6	8.3	6.4	70.6	14.6	0.0	0.1	70.8	70.4
	2015	871	71.6	6.7	7.6	71.6	13.7	0.1	0.2	73.0	70.2
Slovenia	2011	632	48.2	15.4	26.0	48.2	9.2	1.0	0.1	46.9	49.4
	2015	602	58.6	13.4	16.3	58.6	8.4	3.3	0.0	56.6	60.2
South Africa	2011	1704	43.8	19.5	11.9	43.8	19.1	1.4	4.2	42.6	45.0
	2015	1798	41.3	24.1	12.8	41.3	18.2	1.2	2.4	41.7	40.8
Sweden	2011	796	45.8	17.3	16.5	45.8	18.2	1.5	0.8	44.6	46.8
	2015	584	68.3	9.2	9.5	68.3	8.7	2.6	1.8	65.1	71.1
Thailand	2011	885	33.0	19.4	22.7	33.0	22.6	1.1	1.1	31.3	35.1
	2015	922	38.2	18.2	17.3	38.2	24.1	1.5	0.7	37.0	39.6
Turkey	2011	982	55.6	14.7	7.5	55.6	21.4	0.3	0.5	54.9	56.1
	2015	864	62.7	10.7	9.8	62.7	16.6	0.1	0.2	65.6	59.5
United Arab Emirates	2011	2005	57.8	17.6	7.6	57.8	15.2	0.8	0.9	60.7	55.0
	2015	2567	55.9	16.2	6.6	55.9	18.9	2.0	0.4	60.0	51.6
United States	2011	1517	64.5	9.1	10.7	64.5	14.4	0.6	0.7	63.5	65.6
	2015	1457	71.3	7.8	6.1	71.3	12.1	1.2	1.5	72.4	70.1

International Avg (n=33)	2011	28384	43.8	20.1	13.5	43.8	20.5	1.1	1.0	43.9	43.7
	2015	31176	47.9	18.2	11.4	47.9	20.1	1.4	1.0	48.1	47.6

Ontario, Canada	2011	673	51.6	16.6	8.0	51.6	19.4	1.5	2.8	54.4	48.7
	2015	646	57.6	12.9	8.2	57.6	17.3	0.9	3.0	55.1	60.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_12 (S052038): Earth Science / Knowing Type: MC Key: C
Label: Energy for water cycle

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	36.1	18.9	15.7	36.1	27.8	0.7	0.9	34.9	37.5
	2015	557	46.8	15.3	10.6	46.8	24.3	0.8	2.2	46.9	46.6
Norway (8)	2011	557	44.2	26.9	16.2	44.2	10.9	1.8	0.0	44.8	43.7
	2015	672	42.9	24.4	19.1	42.9	8.9	3.4	1.3	43.9	42.2
Abu Dhabi, UAE	2011	629	56.8	17.6	9.2	56.8	14.5	0.8	1.1	56.8	56.8
	2015	690	53.3	16.5	9.2	53.3	18.9	1.8	0.3	61.4	45.0
Dubai, UAE	2011	784	57.2	17.1	6.2	57.2	17.5	0.8	1.2	61.3	53.5
	2015	883	65.7	12.3	3.3	65.7	16.7	1.3	0.6	62.0	69.9
Florida, US	2011	229	71.0	9.1	6.7	71.0	11.7	0.4	1.1	70.6	71.4
	2015	301	71.8	7.3	6.7	71.8	10.8	1.6	1.7	73.2	70.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S11_13 (S052099): Earth Science / Applying Type: CR 1 Point
Label: Trees protect soil from erosion

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	35.9	44.7	18.8	0.6	35.9	31.9	40.1
	2015	1479	36.9	45.5	16.9	0.6	36.9	35.6	38.3
Bahrain	2011	652	22.1	54.0	23.1	0.9	22.1	25.4	18.6
	2015	693	21.3	57.9	19.7	1.1	21.3	24.3	18.7
Botswana	2011	768	41.1	49.4	7.7	1.8	41.1	41.7	40.5
	2015	855	45.0	44.9	5.6	4.5	45.0	48.2	41.9
Chile	2011	825	7.6	43.9	45.0	3.5	7.6	6.0	9.6
	2015	702	10.7	35.5	52.8	0.9	10.7	8.8	12.4
Chinese Taipei	2011	715	56.9	25.1	17.9	0.1	56.9	57.6	56.3
	2015	819	50.1	30.5	19.1	0.3	50.1	54.9	45.7
England	2011	549	23.8	54.0	21.2	1.0	23.8	21.4	25.9
	2015	694	36.4	40.6	22.4	0.6	36.4	37.9	34.8
Georgia	2011	658	29.0	17.7	52.1	1.2	29.0	31.4	26.5
	2015	575	36.5	22.4	39.9	1.2	36.5	37.0	36.1
Hong Kong SAR	2011	570	35.6	42.3	21.8	0.3	35.6	36.3	34.9
	2015	583	39.2	47.0	13.6	0.2	39.2	34.6	43.8
Hungary	2011	738	22.7	36.0	40.8	0.5	22.7	18.9	26.4
	2015	706	27.1	34.7	37.0	1.2	27.1	25.4	29.0
Iran, Islamic Rep. of	2011	860	29.2	37.6	31.7	1.5	29.2	29.5	29.0
	2015	862	11.4	52.1	35.0	1.4	11.4	10.9	11.9
Israel	2011	679	45.8	27.0	26.5	0.7	45.8	47.2	44.3
	2015	796	44.3	26.9	26.5	2.3	44.3	43.1	45.4
Italy	2011	562	36.7	32.7	29.8	0.8	36.7	31.5	41.8
	2015	640	37.9	31.1	30.4	0.6	37.9	31.3	44.5
Japan	2011	637	38.9	36.1	25.0	0.0	38.9	32.4	45.4
	2015	684	50.9	32.5	16.6	0.0	50.9	52.7	49.1
Jordan	2011	1080	23.9	65.5	10.1	0.5	23.9	26.5	21.5
	2015	1122	18.4	61.7	18.9	1.0	18.4	21.6	14.9
Kazakhstan	2011	619	36.2	28.3	34.1	1.4	36.2	37.5	34.8
	2015	695	47.4	32.2	19.5	0.8	47.4	50.7	44.5
Korea, Rep. of	2011	741	27.4	57.4	15.1	0.1	27.4	28.8	25.8
	2015	765	26.1	55.8	18.1	0.0	26.1	24.7	27.4
Lebanon	2011	565	24.5	33.0	40.3	2.1	24.5	24.1	24.9
	2015	551	23.4	27.5	46.6	2.5	23.4	23.6	23.1
Lithuania	2011	682	19.4	44.1	36.3	0.2	19.4	23.7	15.5
	2015	609	17.8	42.5	39.7	0.1	17.8	20.3	15.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_13 (S052099): Earth Science / Applying Type: CR 1 Point
Label: Trees protect soil from erosion

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	45.4	36.0	16.5	2.1	45.4	44.6	46.2
	2015	1395	52.4	33.6	11.6	2.4	52.4	51.7	53.0
Morocco	2011	1182	13.4	48.2	35.1	3.2	13.4	12.2	14.5
	2015	1893	20.6	49.1	28.9	1.4	20.6	18.7	22.2
New Zealand	2011	760	32.2	44.0	22.5	1.2	32.2	25.6	38.0
	2015	1146	29.6	43.0	26.0	1.4	29.6	26.5	32.3
Oman	2011	1371	18.0	58.9	22.2	0.9	18.0	23.0	13.1
	2015	1261	19.0	67.1	13.2	0.7	19.0	20.8	17.5
Qatar	2011	632	18.0	53.2	27.6	1.2	18.0	20.3	15.5
	2015	772	24.6	50.6	24.3	0.6	24.6	26.0	23.1
Russian Federation	2011	696	38.9	24.1	35.9	1.2	38.9	37.1	40.4
	2015	676	36.5	31.2	31.9	0.4	36.5	33.9	39.0
Saudi Arabia	2011	617	15.2	67.6	16.8	0.3	15.2	19.6	11.2
	2015	544	6.5	70.7	21.5	1.2	6.5	10.0	3.1
Singapore	2011	835	65.6	27.5	6.8	0.1	65.6	65.0	66.2
	2015	871	74.2	22.0	3.6	0.2	74.2	76.4	71.7
Slovenia	2011	632	34.4	33.3	32.1	0.2	34.4	31.8	36.7
	2015	602	35.9	30.4	33.7	0.0	35.9	33.7	37.8
South Africa	2011	1704	15.1	59.5	21.1	4.3	15.1	16.2	13.9
	2015	1798	16.0	68.6	12.7	2.7	16.0	16.7	15.2
Sweden	2011	795	14.3	38.2	46.7	0.8	14.3	16.2	12.7
	2015	584	16.2	39.2	42.6	2.1	16.2	15.5	16.7
Thailand	2011	885	46.4	26.7	25.7	1.2	46.4	47.4	45.2
	2015	923	44.0	37.1	18.2	0.7	44.0	48.3	38.9
Turkey	2011	981	48.0	38.1	13.5	0.5	48.0	48.1	47.9
	2015	864	48.9	40.7	10.2	0.2	48.9	52.9	44.7
United Arab Emirates	2011	2005	31.7	50.4	17.0	0.9	31.7	35.0	28.4
	2015	2567	32.0	51.9	15.5	0.5	32.0	36.0	27.9
United States	2011	1517	46.5	44.1	8.7	0.7	46.5	44.4	48.9
	2015	1457	46.5	45.2	6.6	1.7	46.5	47.3	45.7
International Avg (n=33)	2011	28389	31.5	41.8	25.6	1.1	31.5	31.5	31.5
	2015	31183	32.8	42.5	23.6	1.1	32.8	33.3	32.3
Ontario, Canada	2011	673	34.8	34.8	27.6	2.8	34.8	34.9	35.1
	2015	647	32.3	41.5	23.2	3.0	32.3	30.3	34.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_13 (S052099): Earth Science / Applying Type: CR 1 Point
Label: Trees protect soil from erosion

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	46.4	33.3	19.4	0.9	46.4	46.6	46.1
	2015	558	47.6	33.0	17.1	2.4	47.6	47.9	47.2
Norway (8)	2011	557	16.0	43.5	40.5	0.0	16.0	16.4	15.5
	2015	672	13.7	41.4	43.4	1.5	13.7	14.2	13.3
Abu Dhabi, UAE	2011	629	26.3	57.8	14.7	1.1	26.3	29.3	23.5
	2015	690	24.3	58.0	17.3	0.3	24.3	29.9	18.5
Dubai, UAE	2011	784	40.2	39.2	19.4	1.2	40.2	43.4	37.2
	2015	883	44.6	43.0	11.4	1.0	44.6	48.5	40.2
Florida, US	2011	229	52.2	40.6	6.0	1.1	52.2	52.2	52.1
	2015	301	46.7	41.7	9.5	2.1	46.7	47.9	45.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_14 (S052118): Earth Science / Reasoning Type: CR 1 Point
Label: Claim that moon travels around Sun

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1069	19.8	8.4	14.2	56.5	0.3	0.8	28.2	24.4	32.2
	2015	1479	18.7	9.7	12.9	56.3	1.5	0.9	28.4	24.0	32.9
Bahrain	2011	652	13.9	10.1	11.8	62.5	0.3	1.5	24.0	27.1	20.8
	2015	693	17.4	10.5	14.3	55.4	0.6	1.8	27.9	33.0	23.2
Botswana	2011	768	1.1	0.9	0.3	92.5	1.5	3.7	2.0	0.8	3.3
	2015	855	0.7	0.9	2.4	89.1	1.3	5.5	1.6	1.3	2.0
Chile	2011	825	8.9	4.6	19.6	61.4	0.5	5.0	13.4	13.9	12.9
	2015	702	7.2	5.0	22.9	60.0	3.1	1.9	12.2	11.8	12.6
Chinese Taipei	2011	715	10.2	4.4	14.0	71.3	0.0	0.1	14.6	13.0	16.2
	2015	819	10.5	5.5	11.4	71.8	0.3	0.4	16.0	12.8	18.9
England	2011	549	20.8	16.2	15.0	44.8	1.4	1.8	37.0	33.3	40.2
	2015	694	21.8	11.8	14.0	50.3	1.1	1.0	33.6	34.1	33.0
Georgia	2011	658	25.0	3.5	6.1	56.7	3.3	5.3	28.6	30.3	26.8
	2015	575	18.7	2.8	9.1	65.8	1.3	2.4	21.5	21.4	21.5
Hong Kong SAR	2011	570	10.5	6.5	30.7	51.1	0.2	1.0	17.0	18.7	15.3
	2015	583	14.2	10.6	31.3	43.2	0.5	0.2	24.8	24.3	25.3
Hungary	2011	739	5.1	3.1	18.2	72.7	0.4	0.5	8.2	6.9	9.6
	2015	706	10.0	10.1	18.3	59.2	0.6	1.8	20.1	19.0	21.1
Iran, Islamic Rep. of	2011	860	13.7	1.6	10.7	70.2	1.5	2.3	15.3	15.0	15.5
	2015	862	6.4	3.5	6.7	80.2	0.9	2.3	10.0	10.5	9.5
Israel	2011	679	15.6	5.7	12.9	63.1	1.3	1.5	21.2	20.8	21.7
	2015	796	21.5	9.9	11.7	52.1	1.2	3.5	31.4	32.7	30.1
Italy	2011	562	18.9	6.8	14.9	56.8	1.6	1.0	25.7	23.2	28.1
	2015	639	24.4	5.7	16.1	50.5	2.5	0.9	30.1	27.9	32.2
Japan	2011	637	7.7	1.7	11.8	77.4	1.1	0.3	9.5	6.5	12.4
	2015	684	9.3	1.3	14.3	74.5	0.2	0.5	10.5	9.1	12.0
Jordan	2011	1080	4.7	3.1	12.5	77.9	0.8	1.0	7.8	6.3	9.3
	2015	1122	3.2	4.2	4.8	85.5	0.6	1.6	7.4	6.7	8.2
Kazakhstan	2011	624	18.7	5.5	15.5	49.6	5.2	5.4	24.2	24.8	23.6
	2015	695	46.6	0.3	8.5	33.5	7.9	3.2	46.9	46.7	47.0
Korea, Rep. of	2011	741	18.3	5.6	31.2	44.1	0.3	0.4	24.0	23.7	24.3
	2015	765	19.3	3.1	30.1	46.7	0.6	0.3	22.3	20.4	24.2
Lebanon	2011	569	13.3	3.3	5.9	68.0	6.1	3.4	16.6	14.2	19.3
	2015	551	11.8	3.2	5.4	73.5	3.0	3.1	15.0	16.6	13.3
Lithuania	2011	682	14.6	4.3	20.4	60.4	0.0	0.3	18.9	17.3	20.4
	2015	609	17.0	6.1	26.3	49.9	0.4	0.3	23.1	21.3	24.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_14 (S052118): Earth Science / Reasoning Type: CR 1 Point
Label: Claim that moon travels around Sun

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	808	4.1	9.5	14.6	66.0	2.1	3.7	13.6	13.5	13.7
	2015	1395	10.0	12.0	15.9	55.8	2.0	4.3	22.1	22.1	22.0
Morocco	2011	1173	2.0	2.0	7.9	81.6	2.7	3.8	4.0	2.5	5.4
	2015	1893	9.8	7.4	10.1	67.3	2.8	2.6	17.2	18.2	16.3
New Zealand	2011	760	19.9	11.4	17.0	49.0	1.1	1.6	31.3	30.0	32.4
	2015	1146	24.2	11.1	15.2	46.8	1.1	1.5	35.3	39.3	31.7
Oman	2011	1371	5.7	1.9	10.6	77.9	1.9	2.1	7.6	6.9	8.3
	2015	1261	6.9	7.2	15.4	68.3	1.0	1.3	14.1	15.5	12.8
Qatar	2011	632	10.8	4.1	13.7	66.7	1.1	3.6	14.9	18.2	11.4
	2015	772	12.2	11.6	16.1	58.5	0.6	1.1	23.7	27.8	19.6
Russian Federation	2011	696	20.8	5.8	22.2	49.2	0.2	1.8	26.6	23.2	29.7
	2015	676	25.6	10.3	29.8	32.3	1.6	0.4	36.0	33.8	38.1
Saudi Arabia	2011	617	3.4	3.3	12.9	79.8	0.1	0.5	6.7	7.6	5.9
	2015	544	6.7	3.0	9.1	78.6	1.3	1.4	9.7	8.5	10.8
Singapore	2011	835	15.7	18.7	26.8	38.0	0.4	0.4	34.5	37.1	32.0
	2015	871	9.3	5.4	12.1	72.5	0.5	0.2	14.7	9.7	20.2
Slovenia	2011	632	26.1	6.5	14.0	51.6	0.9	0.9	32.6	31.1	33.9
	2015	602	38.9	3.1	6.5	50.8	0.4	0.2	42.0	44.0	40.3
South Africa	2011	1704	2.8	1.5	5.7	83.1	1.1	5.9	4.2	3.9	4.6
	2015	1798	2.9	1.1	2.5	89.1	0.7	3.7	4.0	4.1	3.9
Sweden	2011	795	23.2	4.0	15.1	56.1	0.1	1.6	27.2	28.1	26.4
	2015	584	28.4	10.0	10.9	46.5	1.3	2.8	38.5	36.3	40.4
Thailand	2011	885	5.3	1.1	10.4	71.6	6.4	5.3	6.4	5.2	7.9
	2015	923	4.5	2.2	12.7	75.4	2.4	2.8	6.7	7.1	6.3
Turkey	2011	982	13.3	3.6	14.2	66.0	1.7	1.3	16.9	12.3	20.9
	2015	864	16.6	5.0	9.8	67.7	0.4	0.5	21.6	23.4	19.6
United Arab Emirates	2011	2005	10.8	5.7	15.9	65.6	0.4	1.6	16.5	16.7	16.3
	2015	2567	12.0	9.3	17.9	58.9	0.7	1.2	21.3	24.0	18.5
United States	2011	1517	23.5	11.3	18.9	44.5	0.6	1.3	34.8	34.6	34.9
	2015	1457	26.2	11.2	18.7	40.8	1.4	1.7	37.4	37.5	37.3

International Avg (n=33)	2011	28391	13.0	5.6	14.7	63.1	1.4	2.1	18.6	17.9	19.3
	2015	31182	15.5	6.5	14.0	60.8	1.4	1.7	22.0	22.0	22.1

Ontario, Canada	2011	673	14.0	5.9	14.2	59.2	2.5	4.1	19.9	17.2	22.7
	2015	647	20.3	8.2	11.3	55.2	1.4	3.5	28.5	26.6	30.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S11_14 (S052118): Earth Science / Reasoning Type: CR 1 Point
Label: Claim that moon travels around Sun

COUNTRY	Year	N	10 %	11 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	858	19.8	12.1	20.4	45.3	0.8	1.6	31.9	31.7	32.1
	2015	558	19.5	11.5	22.9	43.3	0.2	2.7	31.0	30.7	31.2
Norway (8)	2011	557	22.7	10.5	15.5	50.3	0.3	0.5	33.3	35.7	30.8
	2015	672	29.0	8.4	13.3	46.8	0.6	1.7	37.5	34.2	40.2
Abu Dhabi, UAE	2011	629	9.7	4.2	16.3	67.2	0.5	2.1	13.9	12.7	15.0
	2015	690	9.2	11.3	22.5	54.9	0.5	1.4	20.6	26.8	14.2
Dubai, UAE	2011	784	14.7	7.6	18.2	57.3	0.8	1.4	22.3	22.5	22.1
	2015	883	19.5	10.5	16.2	51.9	0.5	1.4	30.0	28.9	31.1
Florida, US	2011	229	28.0	13.8	23.9	32.6	0.0	1.7	41.8	42.0	41.6
	2015	301	25.8	14.5	22.6	34.1	0.9	2.1	40.3	44.5	35.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_01 (S052006): Biology / Applying Type: CR 2 Points
Label: Penguin behavior and survival

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	53.8	36.2	6.2	3.9	0.0	89.9	53.8	55.0	52.5
	2015	1472	47.3	40.6	7.8	4.3	0.0	87.9	47.3	49.1	45.3
Bahrain	2011	654	21.9	32.9	22.1	22.8	0.2	54.8	21.9	25.3	18.5
	2015	706	27.8	30.6	22.6	19.1	0.0	58.3	27.8	31.9	23.7
Botswana	2011	772	10.8	35.7	45.1	8.4	0.0	46.5	10.8	13.5	8.0
	2015	842	14.3	36.4	40.0	9.4	0.0	50.6	14.3	15.1	13.4
Chile	2011	819	30.0	52.6	9.2	8.2	0.0	82.6	30.0	30.4	29.6
	2015	695	19.1	49.2	13.1	18.4	0.2	68.3	19.1	21.9	16.9
Chinese Taipei	2011	720	55.7	32.5	5.3	6.5	0.0	88.1	55.7	58.9	52.5
	2015	818	33.7	51.6	9.3	5.4	0.0	85.3	33.7	34.7	32.8
England	2011	539	49.6	43.4	3.5	3.1	0.4	93.0	49.6	53.1	45.7
	2015	687	56.7	35.5	3.6	4.2	0.0	92.2	56.7	60.4	52.8
Georgia	2011	652	32.4	31.5	5.3	30.6	0.2	63.9	32.4	37.6	26.4
	2015	581	29.8	47.0	4.5	18.6	0.1	76.8	29.8	33.7	25.8
Hong Kong SAR	2011	575	42.9	38.1	7.2	11.8	0.0	81.0	42.9	46.4	39.2
	2015	597	45.1	41.0	6.1	7.7	0.0	86.1	45.1	46.7	43.6
Hungary	2011	745	39.0	39.8	9.5	11.7	0.0	78.8	39.0	40.0	38.1
	2015	688	48.0	34.7	5.5	11.9	0.0	82.6	48.0	55.0	41.5
Iran, Islamic Rep. of	2011	859	41.0	40.6	4.2	14.1	0.1	81.5	41.0	43.2	39.1
	2015	876	26.2	49.2	10.0	14.6	0.0	75.4	26.2	27.9	24.7
Israel	2011	681	40.0	35.5	9.9	14.6	0.1	75.4	40.0	38.2	41.8
	2015	793	31.2	42.6	12.5	13.6	0.1	73.8	31.2	28.9	33.7
Italy	2011	562	41.5	43.2	3.2	12.1	0.0	84.7	41.5	43.1	39.7
	2015	663	34.2	49.6	2.5	13.6	0.0	83.8	34.2	37.7	31.0
Japan	2011	615	33.3	40.9	16.6	9.2	0.0	74.2	33.3	32.3	34.4
	2015	669	30.8	45.2	17.4	6.6	0.0	76.0	30.8	30.0	31.7
Jordan	2011	1100	20.7	36.0	29.7	13.6	0.0	56.7	20.7	23.9	17.5
	2015	1124	10.4	38.2	30.9	20.5	0.0	48.7	10.4	14.8	5.9
Kazakhstan	2011	631	32.5	44.7	10.8	12.0	0.0	77.2	32.5	31.7	33.1
	2015	697	32.5	51.2	9.3	6.9	0.0	83.8	32.5	37.4	27.5
Korea, Rep. of	2011	736	62.9	27.3	4.2	5.6	0.0	90.2	62.9	62.8	63.0
	2015	751	64.3	27.5	3.5	4.7	0.0	91.8	64.3	63.5	65.0
Lebanon	2011	560	9.1	22.0	28.1	40.9	0.0	31.1	9.1	10.4	7.5
	2015	552	9.1	22.5	25.4	42.7	0.2	31.6	9.1	7.9	10.3
Lithuania	2011	685	41.8	45.9	5.6	6.7	0.0	87.7	41.8	45.4	37.9
	2015	620	40.1	47.7	5.7	6.5	0.0	87.8	40.1	40.8	39.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_01 (S052006): Biology / Applying Type: CR 2 Points
Label: Penguin behavior and survival

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	27.2	40.6	18.5	13.2	0.5	67.8	27.2	28.7	25.6
	2015	1394	31.0	42.6	17.7	8.7	0.0	73.6	31.0	31.3	30.7
Morocco	2011	1306	10.5	18.6	38.6	32.2	0.1	29.1	10.5	11.1	10.0
	2015	1730	14.5	26.1	24.7	34.7	0.0	40.6	14.5	15.9	13.3
New Zealand	2011	762	42.3	44.8	8.8	3.8	0.3	87.1	42.3	40.1	44.2
	2015	1150	48.2	37.9	8.1	5.2	0.5	86.2	48.2	51.0	45.3
Oman	2011	1377	12.1	37.1	30.5	20.3	0.0	49.2	12.1	15.8	8.3
	2015	1273	20.1	41.0	27.3	11.6	0.0	61.1	20.1	23.5	16.8
Qatar	2011	640	14.9	35.2	26.7	23.1	0.0	50.1	14.9	16.8	13.0
	2015	769	27.1	35.9	20.0	17.0	0.0	63.0	27.1	32.4	22.1
Russian Federation	2011	707	36.9	35.0	13.7	14.5	0.0	71.9	36.9	38.4	35.4
	2015	685	23.2	43.2	16.9	16.7	0.0	66.4	23.2	23.9	22.4
Saudi Arabia	2011	620	15.3	38.9	32.8	13.0	0.0	54.2	15.3	13.3	17.1
	2015	542	11.7	28.9	32.4	27.0	0.0	40.6	11.7	14.4	8.9
Singapore	2011	855	59.5	35.3	3.5	1.7	0.0	94.8	59.5	61.0	58.1
	2015	873	63.0	30.6	4.6	1.8	0.0	93.6	63.0	65.4	60.7
Slovenia	2011	628	34.7	53.7	3.3	8.3	0.0	88.4	34.7	32.1	36.9
	2015	607	39.6	50.7	4.6	5.2	0.0	90.3	39.6	41.1	37.9
South Africa	2011	1694	9.9	23.8	52.6	13.4	0.2	33.7	9.9	10.3	9.6
	2015	1795	11.2	29.6	49.7	9.6	0.0	40.8	11.2	11.9	10.5
Sweden	2011	796	34.2	50.5	4.9	10.2	0.2	84.7	34.2	33.6	34.7
	2015	574	48.6	40.3	3.5	7.5	0.0	88.9	48.6	58.0	38.9
Thailand	2011	865	29.5	37.4	9.8	23.3	0.0	66.9	29.5	32.7	25.7
	2015	927	27.4	41.0	18.3	13.3	0.0	68.5	27.4	28.2	26.6
Turkey	2011	998	28.1	45.3	11.4	15.1	0.0	73.5	28.1	26.7	29.6
	2015	865	32.1	43.5	13.5	11.0	0.0	75.6	32.1	30.2	33.8
United Arab Emirates	2011	2024	25.2	39.7	23.6	11.2	0.3	64.8	25.2	28.1	22.1
	2015	2579	33.2	35.8	19.7	11.3	0.0	69.0	33.2	36.8	29.5
United States	2011	1499	41.2	44.9	11.2	2.6	0.1	86.1	41.2	40.0	42.6
	2015	1464	40.6	44.6	12.3	2.5	0.0	85.2	40.6	40.6	40.3

International Avg (n=33)	2011	28547	32.7	38.2	15.6	13.4	0.1	70.9	32.7	33.9	31.4
	2015	31058	32.5	39.8	15.2	12.5	0.0	72.2	32.5	34.6	30.4

Ontario, Canada	2011	675	46.4	44.0	3.6	6.0	0.0	90.4	46.4	49.5	43.2
	2015	631	51.8	40.4	2.8	4.9	0.0	92.2	51.8	55.8	47.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_01 (S052006): Biology / Applying Type: CR 2 Points
Label: Penguin behavior and survival

COUNTRY	Year	N	20 %	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	V2 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	879	29.1	59.7	4.2	6.6	0.3	88.8	29.1	26.0	32.6
	2015	560	35.0	56.2	3.8	5.0	0.0	91.2	35.0	32.7	37.3
Norway (8)	2011	560	35.7	53.0	4.1	7.1	0.1	88.7	35.7	35.9	35.5
	2015	667	38.7	51.3	2.8	7.2	0.0	90.0	38.7	39.8	37.6
Abu Dhabi, UAE	2011	632	24.3	41.6	24.4	9.4	0.2	65.9	24.3	24.0	24.6
	2015	691	29.1	38.2	21.3	11.4	0.0	67.3	29.1	33.5	24.4
Dubai, UAE	2011	799	26.1	38.8	20.0	14.9	0.2	65.0	26.1	29.5	23.0
	2015	869	46.1	34.1	13.8	6.0	0.0	80.2	46.1	50.5	41.4
Florida, US	2011	246	45.0	39.7	11.2	3.7	0.5	84.6	45.0	44.1	45.8
	2015	286	36.6	44.3	14.2	4.9	0.0	80.9	36.6	40.6	32.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_02 (S052069): Biology / Knowing Type: MC Key: C
Label: Organism with cell walls

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	67.9	9.2	19.1	67.9	2.2	1.6	0.0	68.8	67.1
	2015	1472	75.4	9.3	10.6	75.4	0.7	3.9	0.0	77.0	73.9
Bahrain	2011	654	47.6	8.6	36.1	47.6	5.0	2.5	0.2	54.9	40.4
	2015	706	64.0	11.5	18.4	64.0	3.2	2.8	0.0	67.1	61.0
Botswana	2011	772	61.8	17.7	14.0	61.8	5.3	1.2	0.0	64.9	58.5
	2015	842	63.1	21.6	9.5	63.1	4.1	1.6	0.0	66.1	59.9
Chile	2011	819	33.8	23.9	34.1	33.8	4.9	3.3	0.0	33.7	34.0
	2015	695	44.5	22.6	27.2	44.5	2.9	2.6	0.2	44.1	44.8
Chinese Taipei	2011	720	75.8	8.0	15.4	75.8	0.5	0.3	0.0	76.1	75.4
	2015	818	73.3	8.5	17.0	73.3	0.6	0.6	0.0	72.2	74.3
England	2011	539	67.4	9.8	19.7	67.4	1.1	1.5	0.4	67.5	67.3
	2015	687	71.0	9.6	13.1	71.0	1.5	4.8	0.0	71.6	70.4
Georgia	2011	652	53.6	17.9	23.1	53.6	2.9	2.3	0.2	58.8	47.6
	2015	581	40.0	31.7	21.0	40.0	2.3	4.9	0.1	37.5	42.6
Hong Kong SAR	2011	575	55.5	17.9	20.6	55.5	5.3	0.7	0.0	55.0	56.1
	2015	597	62.1	13.8	19.5	62.1	3.9	0.7	0.0	60.0	64.1
Hungary	2011	745	14.2	20.1	59.8	14.2	4.0	1.9	0.0	15.2	13.3
	2015	688	13.8	21.6	57.9	13.8	3.7	3.1	0.0	12.8	14.6
Iran, Islamic Rep. of	2011	859	37.6	34.3	17.5	37.6	5.7	4.6	0.2	41.9	34.0
	2015	876	40.4	32.1	16.4	40.4	6.4	4.7	0.0	46.3	35.2
Israel	2011	681	58.9	12.1	20.6	58.9	5.3	3.1	0.1	61.4	56.2
	2015	793	52.5	15.2	24.1	52.5	4.4	3.6	0.1	53.9	51.0
Italy	2011	557	29.2	16.8	46.7	29.2	3.7	3.6	0.0	23.4	35.1
	2015	663	25.2	24.7	41.5	25.2	2.4	6.3	0.0	23.4	26.8
Japan	2011	615	54.9	20.2	20.0	54.9	1.8	3.2	0.0	50.6	59.2
	2015	669	72.6	15.7	7.4	72.6	0.5	3.7	0.0	71.8	73.5
Jordan	2011	1100	44.2	19.9	26.1	44.2	7.6	2.2	0.0	47.6	40.8
	2015	1124	43.6	17.3	25.1	43.6	10.4	3.6	0.0	46.5	40.7
Kazakhstan	2011	631	17.1	53.6	25.7	17.1	1.7	1.6	0.3	17.3	16.8
	2015	697	32.6	46.8	16.5	32.6	3.0	1.1	0.0	29.2	36.0
Korea, Rep. of	2011	736	68.0	18.3	13.2	68.0	0.4	0.1	0.0	64.7	71.6
	2015	751	63.4	20.2	14.7	63.4	0.9	0.9	0.0	61.3	65.3
Lebanon	2011	543	26.9	38.6	22.4	26.9	7.5	4.5	0.0	24.9	29.4
	2015	532	26.3	41.4	17.9	26.3	6.7	7.5	0.2	28.8	23.8
Lithuania	2011	685	39.1	21.9	30.6	39.1	5.0	3.3	0.0	38.9	39.4
	2015	620	52.1	14.9	28.0	52.1	3.0	2.0	0.0	51.5	52.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_02 (S052069): Biology / Knowing Type: MC Key: C
Label: Organism with cell walls

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	50.2	11.8	30.7	50.2	5.6	1.3	0.5	52.7	47.5
	2015	1394	71.3	13.0	11.5	71.3	3.7	0.5	0.0	74.6	68.2
Morocco	2011	1230	30.3	23.2	33.4	30.3	7.5	5.3	0.2	31.2	29.6
	2015	1730	30.2	18.2	32.0	30.2	10.1	9.5	0.1	28.4	31.6
New Zealand	2011	762	63.6	10.8	20.6	63.6	2.5	2.1	0.3	62.2	64.9
	2015	1150	71.2	9.8	12.7	71.2	1.6	4.2	0.5	69.8	72.6
Oman	2011	1377	37.0	16.0	36.1	37.0	8.6	2.2	0.1	39.2	34.7
	2015	1272	41.4	15.4	34.6	41.4	6.3	2.3	0.0	43.5	39.3
Qatar	2011	640	57.2	12.3	19.9	57.2	7.4	3.2	0.0	61.7	52.7
	2015	769	71.5	13.4	9.4	71.5	2.9	2.7	0.0	77.2	66.2
Russian Federation	2011	707	41.6	22.5	31.0	41.6	2.5	2.4	0.0	39.0	43.9
	2015	685	47.6	20.5	26.5	47.6	2.4	2.9	0.0	48.6	46.6
Saudi Arabia	2011	617	56.0	10.4	27.3	56.0	5.8	0.5	0.0	64.2	48.3
	2015	535	53.4	15.6	21.5	53.4	6.9	2.7	0.0	61.5	44.9
Singapore	2011	855	88.0	2.8	8.1	88.0	0.9	0.1	0.1	89.6	86.6
	2015	873	87.0	3.6	7.4	87.0	1.4	0.6	0.0	87.0	87.0
Slovenia	2011	628	46.9	8.5	36.4	46.9	1.8	6.4	0.0	46.9	46.8
	2015	607	69.8	11.2	11.7	69.8	0.6	6.7	0.0	70.9	68.6
South Africa	2011	1694	50.2	20.6	17.2	50.2	6.9	4.8	0.4	50.4	50.0
	2015	1795	61.0	15.3	13.0	61.0	3.3	7.4	0.0	64.2	57.6
Sweden	2011	796	46.2	17.6	30.2	46.2	2.7	2.9	0.3	43.0	49.4
	2015	574	55.1	15.6	20.1	55.1	1.7	7.4	0.0	58.1	51.9
Thailand	2011	865	31.7	23.3	42.2	31.7	1.7	1.1	0.0	32.8	30.3
	2015	925	36.7	22.9	35.8	36.7	3.8	0.8	0.0	37.0	36.4
Turkey	2011	998	67.3	11.5	18.5	67.3	1.9	0.8	0.0	71.7	63.0
	2015	865	60.0	13.9	23.0	60.0	2.8	0.3	0.0	65.6	54.9
United Arab Emirates	2011	2024	60.4	10.9	22.5	60.4	4.4	1.4	0.5	61.4	59.3
	2015	2581	65.2	9.9	19.8	65.2	2.5	2.7	0.0	67.7	62.6
United States	2011	1499	72.6	11.8	13.4	72.6	1.3	0.8	0.2	72.7	72.5
	2015	1464	74.9	11.0	11.3	74.9	0.8	2.0	0.0	74.1	75.6

International Avg (n=33)	2011	28446	50.1	17.7	25.8	50.1	4.0	2.3	0.1	51.0	49.1
	2015	31030	54.9	17.8	20.5	54.9	3.4	3.4	0.0	56.0	53.8

Ontario, Canada	2011	675	70.7	8.0	16.7	70.7	2.0	2.4	0.3	71.2	70.1
	2015	616	69.6	11.7	16.4	69.6	1.3	1.0	0.0	68.3	71.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SI3_02 (S052069): Biology / Knowing Type: MC Key: C
Label: Organism with cell walls

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	57.0	15.8	18.4	57.0	3.1	5.4	0.3	59.4	54.2
	2015	543	64.5	16.7	15.4	64.5	1.9	1.6	0.0	63.2	65.7
Norway (8)	2011	560	35.3	18.4	32.7	35.3	7.9	5.6	0.1	36.1	34.6
	2015	666	43.5	14.8	28.2	43.5	5.4	8.1	0.0	44.6	42.3
Abu Dhabi, UAE	2011	632	59.0	11.1	23.8	59.0	4.6	1.0	0.5	57.3	60.7
	2015	693	62.4	11.9	20.9	62.4	3.0	1.8	0.0	66.0	58.6
Dubai, UAE	2011	799	68.4	10.1	16.7	68.4	2.8	1.8	0.2	72.5	64.5
	2015	869	75.2	5.5	15.9	75.2	1.5	2.0	0.0	74.6	75.8
Florida, US	2011	246	71.9	13.0	12.7	71.9	1.9	0.0	0.5	67.9	75.6
	2015	286	74.2	13.3	10.4	74.2	0.2	1.9	0.0	77.3	71.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_03 (S052012): Biology / Knowing Type: MC Key: B
Label: How decomposers get energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	48.5	29.6	48.5	13.1	7.0	1.8	0.0	43.1	53.8
	2015	1472	47.4	29.0	47.4	11.8	7.9	3.9	0.0	40.7	54.5
Bahrain	2011	654	26.7	33.0	26.7	24.3	14.4	1.4	0.2	27.9	25.4
	2015	706	48.3	25.1	48.3	17.4	6.7	2.5	0.0	52.2	44.5
Botswana	2011	772	54.5	27.3	54.5	4.7	13.1	0.4	0.0	56.4	52.5
	2015	843	63.0	20.0	63.0	6.5	9.8	0.8	0.0	68.6	57.1
Chile	2011	819	67.0	18.2	67.0	6.0	7.5	1.4	0.0	63.7	70.9
	2015	695	70.6	16.1	70.6	4.3	6.3	2.6	0.2	69.9	71.1
Chinese Taipei	2011	720	73.9	14.0	73.9	7.1	4.7	0.4	0.0	73.1	74.6
	2015	818	74.9	14.2	74.9	5.4	5.3	0.3	0.0	70.5	79.0
England	2011	539	45.9	32.2	45.9	14.9	4.7	2.0	0.4	43.2	48.9
	2015	687	42.0	33.8	42.0	13.8	7.8	2.6	0.0	39.2	44.9
Georgia	2011	652	44.0	36.3	44.0	7.2	10.0	2.1	0.3	46.5	41.2
	2015	581	20.0	41.1	20.0	14.8	14.2	9.7	0.1	21.3	18.7
Hong Kong SAR	2011	575	41.5	16.5	41.5	28.3	11.7	2.0	0.0	37.6	45.7
	2015	597	46.0	16.9	46.0	22.7	12.0	2.4	0.0	42.4	49.5
Hungary	2011	745	63.2	21.3	63.2	10.8	4.2	0.5	0.0	57.1	68.8
	2015	688	62.7	19.9	62.7	10.5	5.2	1.7	0.0	61.0	64.3
Iran, Islamic Rep. of	2011	859	52.9	22.6	52.9	7.4	14.3	2.6	0.2	55.1	51.1
	2015	876	48.6	30.1	48.6	6.6	12.6	2.1	0.0	43.6	53.1
Israel	2011	681	44.7	23.6	44.7	13.2	14.5	3.9	0.1	42.7	46.7
	2015	793	38.7	27.1	38.7	12.9	16.6	4.6	0.1	38.2	39.2
Italy	2011	562	62.0	20.2	62.0	9.6	6.8	1.4	0.0	56.5	67.7
	2015	663	54.2	18.5	54.2	12.5	10.2	4.6	0.0	50.7	57.3
Japan	2011	615	38.0	28.9	38.0	11.5	19.1	2.6	0.0	29.6	46.5
	2015	669	36.2	32.4	36.2	11.3	19.3	0.9	0.0	32.5	40.2
Jordan	2011	1100	51.0	26.7	51.0	11.0	10.1	1.2	0.0	53.6	48.3
	2015	1125	49.6	32.2	49.6	9.6	6.1	2.5	0.0	50.5	48.6
Kazakhstan	2011	631	34.1	36.8	34.1	12.2	13.0	3.7	0.3	33.9	34.3
	2015	698	45.5	32.4	45.5	6.2	13.3	2.6	0.0	46.8	44.1
Korea, Rep. of	2011	736	57.6	18.7	57.6	14.6	8.8	0.4	0.0	51.1	64.5
	2015	751	59.5	16.4	59.5	14.1	10.0	0.0	0.0	57.0	61.8
Lebanon	2011	552	36.7	33.1	36.7	8.4	16.9	4.9	0.0	33.5	40.5
	2015	544	37.1	35.2	37.1	9.6	11.3	6.7	0.2	34.4	39.8
Lithuania	2011	685	63.6	15.9	63.6	7.7	10.9	1.9	0.0	59.5	68.0
	2015	620	58.1	20.8	58.1	8.4	11.5	1.1	0.0	59.0	57.3

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_03 (S052012): Biology / Knowing Type: MC Key: B
Label: How decomposers get energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	45.6	16.7	45.6	8.6	27.2	1.5	0.5	44.3	46.9
	2015	1394	44.2	19.5	44.2	8.3	26.4	1.7	0.0	39.3	48.9
Morocco	2011	1275	27.8	23.5	27.8	28.3	16.7	3.5	0.2	23.8	31.3
	2015	1730	25.8	34.8	25.8	22.2	12.7	4.4	0.1	22.4	28.7
New Zealand	2011	762	48.6	29.1	48.6	13.3	7.5	1.3	0.3	39.8	56.4
	2015	1150	50.0	26.3	50.0	13.2	7.6	2.3	0.5	49.0	51.1
Oman	2011	1377	51.0	26.9	51.0	11.8	8.0	2.3	0.1	61.0	40.6
	2015	1273	49.8	29.0	49.8	12.1	7.3	1.8	0.0	53.7	46.1
Qatar	2011	640	44.4	27.9	44.4	11.8	13.4	2.4	0.0	47.2	41.7
	2015	769	48.5	26.3	48.5	13.9	9.2	2.2	0.0	45.1	51.6
Russian Federation	2011	707	47.5	25.6	47.5	12.4	8.9	5.5	0.1	52.1	43.4
	2015	685	46.8	27.2	46.8	10.3	10.3	5.4	0.0	49.1	44.5
Saudi Arabia	2011	619	27.9	38.0	27.9	20.7	12.8	0.6	0.0	26.8	28.9
	2015	540	27.5	42.6	27.5	17.3	10.7	1.9	0.0	31.3	23.4
Singapore	2011	855	82.0	10.2	82.0	4.2	3.4	0.1	0.1	81.1	82.9
	2015	873	83.4	9.3	83.4	4.4	2.2	0.6	0.0	80.5	86.2
Slovenia	2011	628	81.1	6.1	81.1	5.7	5.2	1.8	0.0	78.4	83.6
	2015	607	71.6	10.9	71.6	7.5	8.7	1.3	0.0	70.9	72.4
South Africa	2011	1694	26.7	42.6	26.7	8.7	19.2	2.4	0.4	28.7	24.7
	2015	1795	31.7	38.5	31.7	9.5	18.2	2.1	0.0	33.3	29.9
Sweden	2011	796	51.4	20.8	51.4	10.8	14.2	2.4	0.5	48.7	53.9
	2015	574	62.1	14.3	62.1	9.4	12.2	1.9	0.0	61.2	63.2
Thailand	2011	865	34.3	40.0	34.3	13.6	10.3	1.9	0.0	31.2	37.8
	2015	927	36.3	42.8	36.3	11.5	8.0	1.4	0.0	35.6	37.2
Turkey	2011	998	76.0	10.8	76.0	5.1	6.7	1.3	0.0	77.8	74.3
	2015	865	69.4	13.3	69.4	8.6	7.7	1.0	0.0	70.0	68.9
United Arab Emirates	2011	2024	54.5	23.2	54.5	11.0	9.4	1.3	0.5	55.1	53.9
	2015	2581	52.2	24.5	52.2	13.0	8.5	1.9	0.0	51.7	52.7
United States	2011	1499	67.5	22.0	67.5	4.7	4.6	1.0	0.2	63.1	72.5
	2015	1464	70.4	18.6	70.4	5.3	4.8	0.9	0.0	65.4	75.3

International Avg (n=33)	2011	28507	50.7	24.8	50.7	11.6	10.9	1.9	0.1	49.2	52.2
	2015	31053	50.7	25.4	50.7	11.1	10.3	2.5	0.0	49.6	51.7

Ontario, Canada	2011	675	54.8	27.4	54.8	10.5	5.2	1.8	0.3	47.7	62.1
	2015	631	64.6	21.0	64.6	8.0	4.3	2.1	0.0	63.0	66.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SI3_03 (S052012): Biology / Knowing Type: MC Key: B
Label: How decomposers get energy

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	59.8	26.7	59.8	6.7	4.3	2.2	0.3	57.0	62.9
	2015	559	62.9	23.3	62.9	6.7	5.3	1.8	0.0	59.6	66.2
Norway (8)	2011	560	48.2	27.1	48.2	10.9	10.9	2.8	0.1	43.2	52.5
	2015	667	58.0	21.1	58.0	7.9	11.0	2.1	0.0	55.9	60.1
Abu Dhabi, UAE	2011	632	49.7	23.5	49.7	13.5	11.4	1.2	0.7	45.8	53.3
	2015	693	47.6	27.1	47.6	13.6	9.3	2.5	0.0	46.4	48.8
Dubai, UAE	2011	799	59.6	22.3	59.6	6.9	9.1	2.0	0.2	60.5	58.7
	2015	869	66.0	18.7	66.0	8.0	6.8	0.5	0.0	65.4	66.6
Florida, US	2011	246	73.6	15.6	73.6	4.4	5.4	0.5	0.5	67.1	79.7
	2015	286	69.8	18.6	69.8	4.2	6.2	1.2	0.0	65.1	74.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_04 (S052021): Biology / Reasoning Type: CR 1 Point
Label: Organism that competes with humans

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	47.3	47.3	5.4	0.0	47.3	44.1	50.5
	2015	1472	42.5	50.9	6.6	0.0	42.5	38.6	46.6
Bahrain	2011	654	16.7	75.9	7.2	0.3	16.7	16.4	17.0
	2015	706	17.3	75.4	7.2	0.0	17.3	18.2	16.5
Botswana	2011	772	25.5	72.3	2.2	0.0	25.5	26.1	25.0
	2015	843	29.4	67.8	2.7	0.0	29.4	31.0	27.8
Chile	2011	819	12.9	72.5	14.5	0.0	12.9	9.3	17.2
	2015	695	11.7	71.1	17.0	0.2	11.7	10.5	12.6
Chinese Taipei	2011	720	40.6	56.1	3.3	0.0	40.6	37.6	43.6
	2015	818	46.6	52.2	1.2	0.0	46.6	43.9	49.2
England	2011	539	36.5	57.3	5.8	0.4	36.5	36.9	36.1
	2015	687	35.9	57.2	6.9	0.0	35.9	33.1	38.9
Georgia	2011	652	41.1	46.5	12.0	0.3	41.1	43.3	38.7
	2015	581	32.7	59.5	7.6	0.1	32.7	30.0	35.5
Hong Kong SAR	2011	575	58.2	38.1	3.7	0.0	58.2	54.5	62.2
	2015	597	63.0	35.2	1.8	0.0	63.0	60.7	65.3
Hungary	2011	745	16.5	76.9	6.6	0.0	16.5	15.6	17.4
	2015	688	21.7	73.6	4.8	0.0	21.7	18.6	24.5
Iran, Islamic Rep. of	2011	859	52.4	41.1	6.3	0.2	52.4	51.1	53.6
	2015	876	51.5	42.1	6.4	0.0	51.5	52.7	50.5
Israel	2011	681	39.2	51.9	8.5	0.4	39.2	35.4	43.2
	2015	793	41.6	50.3	7.9	0.1	41.6	40.1	43.3
Italy	2011	562	18.1	70.6	11.3	0.0	18.1	14.6	21.8
	2015	663	19.8	65.0	15.2	0.0	19.8	15.6	23.7
Japan	2011	615	47.7	50.7	1.5	0.0	47.7	41.6	53.9
	2015	669	46.7	51.8	1.5	0.0	46.7	41.4	52.5
Jordan	2011	1100	30.4	66.0	3.5	0.0	30.4	33.1	27.9
	2015	1125	28.3	65.7	6.0	0.0	28.3	32.7	23.8
Kazakhstan	2011	631	57.0	38.2	4.5	0.3	57.0	56.8	57.1
	2015	698	62.7	35.1	2.2	0.0	62.7	67.7	57.6
Korea, Rep. of	2011	736	62.7	35.8	1.4	0.0	62.7	54.6	71.3
	2015	751	61.2	37.7	1.1	0.0	61.2	55.6	66.4
Lebanon	2011	560	7.5	76.1	16.4	0.0	7.5	5.2	10.2
	2015	552	10.5	68.4	20.9	0.2	10.5	9.2	11.9
Lithuania	2011	685	27.1	68.3	4.6	0.0	27.1	24.0	30.4
	2015	620	27.1	68.1	4.8	0.0	27.1	27.3	26.8

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_04 (S052021): Biology / Reasoning Type: CR 1 Point
Label: Organism that competes with humans

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	28.3	63.3	7.8	0.6	28.3	29.3	27.4
	2015	1394	31.9	62.5	5.6	0.0	31.9	30.3	33.5
Morocco	2011	1305	23.1	64.4	12.3	0.2	23.1	20.9	25.0
	2015	1730	27.8	63.9	8.2	0.1	27.8	24.9	30.3
New Zealand	2011	762	31.5	61.7	6.6	0.3	31.5	23.3	38.7
	2015	1150	32.0	61.2	6.3	0.5	32.0	31.6	32.4
Oman	2011	1377	22.8	68.3	8.8	0.1	22.8	25.0	20.5
	2015	1273	26.2	68.6	5.2	0.0	26.2	25.8	26.6
Qatar	2011	640	18.9	72.2	8.9	0.0	18.9	17.5	20.4
	2015	769	23.5	70.0	6.5	0.0	23.5	24.9	22.2
Russian Federation	2011	707	71.7	25.2	3.0	0.1	71.7	73.0	70.6
	2015	685	65.9	31.0	3.1	0.0	65.9	66.8	65.0
Saudi Arabia	2011	620	18.5	77.4	4.1	0.0	18.5	15.0	21.8
	2015	541	14.2	76.7	9.1	0.0	14.2	14.2	14.2
Singapore	2011	855	59.3	39.0	1.6	0.1	59.3	56.9	61.5
	2015	873	62.0	37.0	1.0	0.0	62.0	57.9	66.0
Slovenia	2011	628	29.5	65.6	4.9	0.0	29.5	27.8	31.0
	2015	607	27.0	68.1	4.9	0.0	27.0	26.6	27.5
South Africa	2011	1694	7.0	87.0	5.6	0.5	7.0	6.7	7.3
	2015	1795	10.2	86.0	3.8	0.0	10.2	9.2	11.3
Sweden	2011	796	30.7	58.5	10.3	0.5	30.7	25.2	35.9
	2015	574	39.3	50.1	10.5	0.0	39.3	36.3	42.5
Thailand	2011	865	49.6	39.1	11.2	0.0	49.6	51.8	47.1
	2015	927	49.5	43.2	7.3	0.0	49.5	54.8	43.6
Turkey	2011	998	33.2	58.0	8.8	0.0	33.2	32.2	34.3
	2015	865	31.5	63.3	5.2	0.0	31.5	29.9	33.0
United Arab Emirates	2011	2024	21.6	72.8	5.0	0.6	21.6	21.8	21.3
	2015	2581	26.8	68.7	4.5	0.0	26.8	25.5	28.1
United States	2011	1499	41.3	56.7	1.8	0.2	41.3	38.3	44.6
	2015	1464	45.0	52.7	2.3	0.0	45.0	43.0	46.7

International Avg (n=33)	2011	28546	34.1	59.1	6.6	0.2	34.1	32.3	35.9
	2015	31062	35.3	58.5	6.2	0.0	35.3	34.2	36.2

Ontario, Canada	2011	675	32.0	60.9	6.8	0.3	32.0	28.0	36.2
	2015	631	40.5	54.3	5.3	0.0	40.5	39.7	41.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_04 (S052021): Biology / Reasoning Type: CR 1 Point
Label: Organism that competes with humans

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	879	38.1	51.0	10.6	0.3	38.1	37.9	38.2
	2015	560	38.7	54.5	6.9	0.0	38.7	30.0	47.2
Norway (8)	2011	560	19.6	71.9	8.4	0.1	19.6	15.8	23.0
	2015	667	20.8	71.8	7.4	0.0	20.8	14.9	26.7
Abu Dhabi, UAE	2011	632	20.4	74.4	4.5	0.7	20.4	17.8	22.8
	2015	693	23.2	70.5	6.4	0.0	23.2	23.8	22.5
Dubai, UAE	2011	799	26.9	65.8	6.8	0.5	26.9	26.8	27.0
	2015	869	39.4	58.1	2.5	0.0	39.4	36.8	42.1
Florida, US	2011	246	38.1	57.2	4.2	0.5	38.1	31.8	44.0
	2015	286	39.2	58.3	2.5	0.0	39.2	38.8	39.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_05Z (S052095Z): Biology / Applying Type: CR 1 Point
Label: Garden with bird feeder (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	66.4	30.1	3.4	0.0	66.4	65.5	67.2
	2015	1480	62.3	35.1	2.5	0.0	62.3	65.2	59.4
Bahrain	2011	654	51.8	37.6	10.4	0.3	51.8	54.9	48.7
	2015	706	52.1	42.4	5.5	0.0	52.1	58.3	46.0
Botswana	2011	772	34.8	59.2	6.0	0.0	34.8	36.6	33.0
	2015	843	36.4	59.0	4.6	0.0	36.4	34.1	38.9
Chile	2011	819	59.1	37.5	3.3	0.2	59.1	54.8	64.0
	2015	698	60.5	34.9	4.4	0.2	60.5	58.5	62.2
Chinese Taipei	2011	720	55.5	44.1	0.4	0.0	55.5	52.9	58.1
	2015	819	52.9	46.8	0.3	0.0	52.9	49.6	56.1
England	2011	539	62.7	34.2	2.5	0.6	62.7	64.5	60.7
	2015	687	60.0	38.6	1.4	0.0	60.0	63.8	56.1
Georgia	2011	652	49.8	37.2	12.6	0.3	49.8	49.4	50.2
	2015	581	57.8	36.9	5.2	0.1	57.8	56.8	58.8
Hong Kong SAR	2011	575	49.1	49.0	1.9	0.0	49.1	49.6	48.6
	2015	597	50.5	48.2	1.2	0.0	50.5	48.2	52.8
Hungary	2011	745	72.8	26.3	0.9	0.0	72.8	69.7	75.6
	2015	689	68.6	30.8	0.6	0.0	68.6	63.4	73.4
Iran, Islamic Rep. of	2011	859	55.4	42.5	1.8	0.2	55.4	56.0	54.9
	2015	878	53.6	43.2	3.2	0.0	53.6	53.2	53.9
Israel	2011	681	65.2	29.2	5.3	0.4	65.2	63.8	66.6
	2015	793	62.0	32.2	5.7	0.1	62.0	60.2	63.9
Italy	2011	562	69.7	28.5	1.8	0.0	69.7	69.4	69.9
	2015	665	66.5	31.6	1.9	0.0	66.5	61.9	70.7
Japan	2011	615	45.3	54.2	0.5	0.0	45.3	46.3	44.4
	2015	669	42.5	56.8	0.7	0.0	42.5	42.8	42.2
Jordan	2011	1100	50.9	39.1	10.0	0.0	50.9	56.5	45.4
	2015	1125	50.5	43.4	6.1	0.0	50.5	54.6	46.4
Kazakhstan	2011	631	43.2	49.4	7.0	0.3	43.2	42.8	43.6
	2015	698	58.1	40.0	1.8	0.0	58.1	57.1	59.2
Korea, Rep. of	2011	736	47.7	51.8	0.5	0.0	47.7	46.8	48.6
	2015	753	43.8	55.3	0.9	0.0	43.8	40.1	47.2
Lebanon	2011	555	31.2	54.0	14.7	0.1	31.2	28.8	34.1
	2015	522	25.9	56.3	17.4	0.3	25.9	27.4	24.5
Lithuania	2011	685	68.3	29.4	2.3	0.0	68.3	66.1	70.7
	2015	620	78.2	21.4	0.5	0.0	78.2	79.4	76.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_05Z (S052095Z): Biology / Applying Type: CR 1 Point
Label: Garden with bird feeder (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	44.6	50.8	3.9	0.7	44.6	45.9	43.3
	2015	1394	47.5	50.1	2.3	0.0	47.5	50.1	45.1
Morocco	2011	1281	52.9	43.5	3.4	0.2	52.9	50.8	54.7
	2015	1730	51.2	40.2	8.5	0.1	51.2	52.7	50.0
New Zealand	2011	762	67.6	30.3	1.8	0.3	67.6	66.9	68.2
	2015	1155	67.7	28.1	3.6	0.5	67.7	69.2	66.2
Oman	2011	1377	46.8	40.5	12.6	0.1	46.8	51.8	41.6
	2015	1270	49.7	45.5	4.7	0.0	49.7	51.0	48.5
Qatar	2011	640	42.4	43.6	14.0	0.0	42.4	47.3	37.6
	2015	771	45.5	44.8	9.8	0.0	45.5	47.6	43.5
Russian Federation	2011	707	80.3	17.3	2.3	0.1	80.3	80.9	79.8
	2015	685	80.4	18.1	1.5	0.0	80.4	80.7	80.2
Saudi Arabia	2011	610	54.7	40.3	5.0	0.0	54.7	54.5	55.0
	2015	539	43.4	52.0	4.5	0.0	43.4	45.6	41.2
Singapore	2011	855	60.3	38.9	0.7	0.1	60.3	55.8	64.6
	2015	874	58.9	40.0	1.1	0.0	58.9	59.0	58.8
Slovenia	2011	628	76.8	22.0	1.2	0.0	76.8	73.7	79.5
	2015	607	67.2	32.4	0.4	0.0	67.2	68.4	66.0
South Africa	2011	1694	18.7	68.1	12.8	0.5	18.7	15.4	21.9
	2015	1795	22.6	71.0	6.4	0.0	22.6	20.9	24.5
Sweden	2011	796	64.8	32.4	2.4	0.5	64.8	65.0	64.5
	2015	575	63.1	33.8	3.0	0.0	63.1	66.8	59.3
Thailand	2011	865	38.2	57.6	4.2	0.0	38.2	39.6	36.6
	2015	921	51.3	47.2	1.5	0.0	51.3	52.0	50.4
Turkey	2011	998	57.8	39.0	3.3	0.0	57.8	54.2	61.2
	2015	865	50.8	48.2	1.1	0.0	50.8	44.3	56.7
United Arab Emirates	2011	2024	51.7	43.0	4.5	0.7	51.7	51.9	51.6
	2015	2581	47.7	48.9	3.4	0.0	47.7	48.9	46.5
United States	2011	1499	59.3	37.8	2.7	0.2	59.3	60.4	58.0
	2015	1464	60.8	37.2	2.1	0.0	60.8	58.7	62.6

International Avg (n=33)	2011	28507	54.4	40.6	4.8	0.2	54.4	54.2	54.6
	2015	31049	54.3	42.1	3.6	0.0	54.3	54.3	54.2

Ontario, Canada	2011	675	62.9	35.5	1.1	0.5	62.9	62.6	63.2
	2015	633	63.6	33.9	2.5	0.0	63.6	67.2	59.7

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_05Z (S052095Z): Biology / Applying Type: CR 1 Point
Label: Garden with bird feeder (DERIVED)

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	70.4	27.4	1.6	0.6	70.4	68.3	72.8
	2015	562	71.8	26.4	1.8	0.0	71.8	68.9	74.7
Norway (8)	2011	560	69.5	28.7	1.7	0.1	69.5	71.0	68.1
	2015	669	67.3	30.4	2.3	0.0	67.3	66.9	67.7
Abu Dhabi, UAE	2011	632	51.5	44.0	3.7	0.7	51.5	48.8	54.1
	2015	693	46.9	49.0	4.1	0.0	46.9	48.9	44.9
Dubai, UAE	2011	799	54.9	39.4	5.1	0.6	54.9	59.7	50.5
	2015	869	50.2	47.6	2.2	0.0	50.2	48.3	52.2
Florida, US	2011	246	56.3	40.1	3.2	0.5	56.3	55.1	57.4
	2015	286	53.1	45.7	1.2	0.0	53.1	47.8	58.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_06 (S052134): Chemistry / Knowing Type: MC Key: B
Label: Number of atoms in NaOH

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	42.9	7.0	42.9	30.7	17.4	1.9	0.0	42.5	43.3
	2015	1472	37.4	7.8	37.4	33.0	16.8	4.8	0.2	38.4	36.3
Bahrain	2011	654	36.5	5.7	36.5	38.7	15.2	3.7	0.3	31.3	41.6
	2015	706	31.4	6.1	31.4	42.6	17.5	2.4	0.1	32.4	30.4
Botswana	2011	772	36.1	8.8	36.1	23.2	30.0	1.9	0.0	35.8	36.4
	2015	0	.	.	.	.	.	.	.	.	.
Chile	2011	819	30.8	7.3	30.8	36.5	19.9	5.4	0.2	29.9	31.8
	2015	695	33.2	6.4	33.2	30.8	20.2	8.9	0.5	29.8	36.1
Chinese Taipei	2011	720	37.4	16.0	37.4	40.5	5.8	0.1	0.1	36.9	37.9
	2015	818	32.5	14.2	32.5	44.8	7.5	1.0	0.0	33.7	31.4
England	2011	539	41.5	6.4	41.5	30.3	15.9	5.3	0.6	43.2	39.6
	2015	687	43.9	4.6	43.9	30.4	15.9	4.8	0.5	45.3	42.3
Georgia	2011	652	31.5	7.7	31.5	21.9	17.5	20.9	0.4	35.2	27.4
	2015	581	34.8	12.4	34.8	30.8	15.8	6.0	0.2	35.1	34.6
Hong Kong SAR	2011	575	28.8	11.6	28.8	41.5	15.9	2.3	0.0	30.9	26.6
	2015	597	27.5	8.4	27.5	43.5	16.9	3.5	0.2	26.3	28.7
Hungary	2011	745	28.4	7.8	28.4	47.9	14.4	1.5	0.0	25.8	30.7
	2015	688	34.6	6.8	34.6	42.6	13.8	2.3	0.0	34.9	34.3
Iran, Islamic Rep. of	2011	859	26.1	5.9	26.1	50.2	15.3	2.2	0.2	27.9	24.6
	2015	877	27.8	5.7	27.8	34.7	22.1	9.0	0.7	28.9	26.9
Israel	2011	681	30.4	6.9	30.4	48.2	9.9	4.2	0.5	28.8	32.1
	2015	793	37.4	4.8	37.4	42.5	10.5	3.6	1.2	37.8	36.9
Italy	2011	561	28.9	7.8	28.9	34.3	20.9	8.2	0.0	28.3	29.5
	2015	663	30.7	4.9	30.7	35.5	22.2	6.3	0.4	26.9	34.2
Japan	2011	615	45.1	3.9	45.1	35.6	14.8	0.6	0.0	45.5	44.8
	2015	669	41.4	2.0	41.4	41.2	14.7	0.8	0.0	39.8	43.0
Jordan	2011	0	.	.	.	.	.	.	.	.	.
	2015	0	.	.	.	.	.	.	.	.	.
Kazakhstan	2011	631	40.1	9.2	40.1	38.5	8.1	3.6	0.4	31.5	47.5
	2015	698	58.7	7.5	58.7	24.1	8.2	1.4	0.1	57.5	59.9
Korea, Rep. of	2011	736	35.8	4.7	35.8	49.2	10.3	0.0	0.0	33.3	38.3
	2015	751	35.2	4.3	35.2	48.9	11.4	0.1	0.0	33.2	37.2
Lebanon	2011	547	26.6	4.6	26.6	54.1	10.6	4.0	0.1	23.6	30.3
	2015	541	31.0	5.3	31.0	40.0	10.9	11.1	1.7	29.7	32.4
Lithuania	2011	685	33.9	9.5	33.9	38.1	15.6	2.9	0.0	30.3	37.6
	2015	620	40.5	7.1	40.5	38.0	10.8	3.6	0.0	44.6	36.4

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_06 (S052134): Chemistry / Knowing Type: MC Key: B
Label: Number of atoms in NaOH

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	36.7	6.7	36.7	22.7	30.8	2.2	0.9	37.5	35.9
	2015	1394	36.4	8.4	36.4	24.5	28.3	2.1	0.2	38.8	34.1
Morocco	2011	1278	30.9	9.0	30.9	38.7	15.3	5.8	0.4	31.3	30.5
	2015	0	.	.	.	.	.	.	.	.	.
New Zealand	2011	762	43.0	7.0	43.0	27.8	17.5	4.5	0.3	41.6	44.2
	2015	1150	38.8	6.4	38.8	29.3	19.9	4.7	0.8	40.2	37.5
Oman	2011	1377	29.4	5.7	29.4	44.5	17.6	2.6	0.3	26.4	32.4
	2015	1273	29.8	4.6	29.8	48.8	14.1	2.0	0.6	24.7	34.7
Qatar	2011	640	34.3	7.6	34.3	39.6	15.4	3.1	0.0	33.3	35.3
	2015	769	33.2	6.3	33.2	41.3	13.5	5.0	0.7	31.6	34.7
Russian Federation	2011	707	47.0	9.2	47.0	35.0	5.3	3.4	0.1	46.7	47.1
	2015	685	52.5	8.2	52.5	30.6	6.0	2.7	0.0	51.9	53.1
Saudi Arabia	2011	620	36.7	6.3	36.7	36.7	18.5	1.9	0.0	35.3	38.0
	2015	539	37.2	7.7	37.2	30.6	20.0	4.5	0.0	37.4	37.0
Singapore	2011	855	60.0	5.2	60.0	24.4	9.9	0.3	0.2	63.0	57.2
	2015	873	62.5	5.3	62.5	23.7	7.8	0.6	0.1	63.3	61.8
Slovenia	2011	628	38.4	4.8	38.4	37.9	14.4	4.5	0.0	38.2	38.6
	2015	607	42.1	4.1	42.1	34.2	15.8	3.8	0.0	43.9	40.1
South Africa	2011	1694	27.2	6.4	27.2	35.9	26.2	3.6	0.7	22.8	31.5
	2015	1795	20.7	5.7	20.7	41.1	28.8	2.9	0.7	18.0	23.6
Sweden	2011	796	33.1	8.0	33.1	35.6	18.7	4.0	0.6	33.2	33.0
	2015	574	32.2	6.6	32.2	36.3	19.1	5.4	0.4	32.5	31.9
Thailand	2011	865	33.8	8.3	33.8	33.6	17.6	6.6	0.0	35.3	32.1
	2015	927	34.9	6.8	34.9	34.7	19.7	3.7	0.3	37.3	32.2
Turkey	2011	998	42.2	5.8	42.2	38.4	11.0	2.6	0.0	42.8	41.6
	2015	865	43.2	5.8	43.2	38.0	12.1	0.9	0.1	43.7	42.6
United Arab Emirates	2011	2024	32.6	7.0	32.6	40.9	16.5	2.3	0.7	33.6	31.7
	2015	2581	35.8	6.3	35.8	42.3	12.6	3.0	0.0	33.9	37.8
United States	2011	1499	44.8	6.4	44.8	33.3	13.3	1.8	0.3	46.1	43.5
	2015	1464	44.6	4.7	44.6	33.2	14.7	2.5	0.4	46.5	43.0

International Avg (n=32)	2011	27405	36.0	7.3	36.0	37.0	15.8	3.7	0.2	35.2	36.7
	2015	27352	37.4	6.5	37.4	36.4	15.6	3.8	0.3	37.3	37.5

Ontario, Canada	2011	675	37.4	7.9	37.4	24.2	25.3	4.7	0.5	36.4	38.4
	2015	631	32.2	9.3	32.2	33.2	19.2	5.3	0.7	33.3	31.1

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S13_06 (S052134): Chemistry / Knowing Type: MC Key: B
Label: Number of atoms in NaOH

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	35.8	5.0	35.8	38.3	15.4	5.0	0.6	36.3	35.3
	2015	558	42.2	5.0	42.2	41.1	10.8	0.9	0.0	40.6	43.8
Norway (8)	2011	560	29.3	6.9	29.3	42.5	16.8	4.1	0.4	30.4	28.2
	2015	667	32.8	8.2	32.8	40.5	13.6	4.9	0.0	37.0	28.6
Abu Dhabi, UAE	2011	632	33.2	6.9	33.2	40.8	16.5	1.9	0.7	34.0	32.5
	2015	693	36.0	6.2	36.0	43.3	11.2	3.3	0.0	33.5	38.5
Dubai, UAE	2011	799	33.0	8.4	33.0	37.9	16.9	3.3	0.6	34.4	31.8
	2015	869	38.6	6.6	38.6	40.0	13.2	1.7	0.0	37.1	40.1
Florida, US	2011	246	35.1	10.7	35.1	36.5	16.2	1.0	0.5	32.5	37.5
	2015	286	37.4	6.8	37.4	37.3	16.4	1.8	0.3	34.3	40.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_07 (S052054): Chemistry / Applying Type: CR 1 Point
Label: Why Solution 2 is paler than 1

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	75.3	17.7	7.0	0.0	75.3	80.1	70.6
	2015	1472	76.1	18.9	4.8	0.2	76.1	78.7	73.3
Bahrain	2011	654	46.9	32.4	20.4	0.4	46.9	59.4	34.5
	2015	706	46.4	40.1	13.5	0.1	46.4	58.4	34.6
Botswana	2011	772	36.9	57.4	5.7	0.0	36.9	40.6	33.1
	2015	843	27.7	64.3	7.1	0.9	27.7	31.0	24.2
Chile	2011	819	59.9	26.8	13.1	0.2	59.9	63.0	56.3
	2015	695	56.4	24.3	18.6	0.6	56.4	60.1	53.4
Chinese Taipei	2011	720	82.0	12.5	5.4	0.1	82.0	85.6	78.4
	2015	818	74.4	21.2	4.4	0.0	74.4	77.9	71.1
England	2011	539	79.3	16.2	3.8	0.6	79.3	81.0	77.5
	2015	687	76.8	15.8	6.8	0.7	76.8	84.0	69.1
Georgia	2011	652	52.6	18.0	28.8	0.6	52.6	56.6	48.0
	2015	581	48.6	27.4	23.7	0.2	48.6	56.3	40.7
Hong Kong SAR	2011	575	55.3	34.0	10.6	0.0	55.3	61.0	49.3
	2015	597	64.4	28.3	7.1	0.2	64.4	67.8	61.1
Hungary	2011	745	79.6	15.5	4.9	0.0	79.6	82.6	76.9
	2015	688	77.8	17.3	4.9	0.0	77.8	80.7	75.2
Iran, Islamic Rep. of	2011	859	67.0	22.1	10.7	0.2	67.0	66.9	67.1
	2015	877	62.7	25.3	11.3	0.7	62.7	65.5	60.2
Israel	2011	681	65.4	23.7	10.5	0.5	65.4	68.5	62.2
	2015	793	55.2	30.3	13.3	1.3	55.2	58.4	51.7
Italy	2011	562	66.5	21.2	12.2	0.0	66.5	68.3	64.7
	2015	663	65.4	21.2	13.1	0.4	65.4	70.1	61.1
Japan	2011	615	71.2	23.2	5.6	0.0	71.2	73.4	69.0
	2015	669	70.6	25.2	4.2	0.0	70.6	72.6	68.5
Jordan	2011	1100	50.7	36.8	12.4	0.1	50.7	63.9	37.8
	2015	1125	44.1	42.5	13.1	0.3	44.1	55.2	32.8
Kazakhstan	2011	631	67.2	18.3	14.1	0.4	67.2	71.1	63.9
	2015	698	73.8	17.5	8.5	0.1	73.8	73.8	73.8
Korea, Rep. of	2011	736	78.9	18.7	2.4	0.0	78.9	84.7	72.7
	2015	751	73.9	23.9	2.2	0.0	73.9	75.7	72.3
Lebanon	2011	560	34.6	40.7	24.7	0.1	34.6	33.8	35.6
	2015	552	37.6	38.3	22.5	1.6	37.6	41.3	33.9
Lithuania	2011	685	77.4	18.9	3.8	0.0	77.4	78.5	76.2
	2015	620	80.8	15.1	4.1	0.0	80.8	84.3	77.3

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S13_07 (S052054): Chemistry / Applying Type: CR 1 Point
Label: Why Solution 2 is paler than 1

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	52.6	32.6	13.8	0.9	52.6	55.1	50.1
	2015	1394	56.1	35.5	8.2	0.2	56.1	60.8	51.5
Morocco	2011	1269	41.5	34.9	23.3	0.4	41.5	46.4	37.1
	2015	1730	34.1	42.6	22.8	0.5	34.1	38.0	30.7
New Zealand	2011	762	72.9	17.3	9.5	0.3	72.9	74.6	71.4
	2015	1150	72.4	20.4	6.4	0.8	72.4	77.6	66.8
Oman	2011	1377	41.6	40.4	17.8	0.3	41.6	54.8	27.8
	2015	1272	48.2	39.4	11.8	0.6	48.2	57.8	39.1
Qatar	2011	640	40.6	41.9	17.6	0.0	40.6	44.2	36.9
	2015	769	48.0	39.5	11.7	0.7	48.0	55.5	41.0
Russian Federation	2011	707	83.3	9.6	6.9	0.2	83.3	84.8	82.0
	2015	685	83.6	10.2	6.2	0.0	83.6	85.1	82.0
Saudi Arabia	2011	620	53.0	38.5	8.5	0.0	53.0	62.1	44.6
	2015	541	40.4	43.7	15.8	0.0	40.4	51.5	28.8
Singapore	2011	855	79.5	17.5	2.8	0.2	79.5	82.0	77.1
	2015	873	77.6	21.1	1.2	0.1	77.6	81.0	74.4
Slovenia	2011	628	70.2	24.2	5.6	0.0	70.2	71.5	69.0
	2015	607	73.9	21.2	4.9	0.0	73.9	76.1	71.4
South Africa	2011	1694	21.2	63.5	14.6	0.7	21.2	24.8	17.7
	2015	1795	28.6	61.0	9.8	0.7	28.6	31.6	25.4
Sweden	2011	796	74.0	17.2	8.1	0.6	74.0	78.8	69.3
	2015	574	76.0	15.2	8.4	0.4	76.0	79.3	72.6
Thailand	2011	865	57.4	23.5	18.9	0.2	57.4	63.2	50.6
	2015	927	50.1	37.1	12.3	0.4	50.1	56.6	43.0
Turkey	2011	998	51.4	33.2	15.4	0.0	51.4	53.2	49.6
	2015	865	54.5	37.4	8.0	0.1	54.5	58.8	50.6
United Arab Emirates	2011	2024	46.9	42.9	9.5	0.7	46.9	52.7	40.9
	2015	2581	49.5	40.0	10.5	0.0	49.5	56.8	41.9
United States	2011	1499	66.7	29.4	3.6	0.3	66.7	69.5	63.5
	2015	1464	62.5	34.1	2.9	0.4	62.5	66.4	58.4

International Avg (n=33)	2011	28510	60.6	27.9	11.3	0.2	60.6	64.7	56.4
	2015	31062	59.6	30.2	9.8	0.4	59.6	64.4	54.9

Ontario, Canada	2011	675	77.4	15.1	7.0	0.5	77.4	80.8	73.9
	2015	631	76.4	18.9	4.0	0.7	76.4	80.3	72.1

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_07 (S052054): Chemistry / Applying Type: CR 1 Point
Label: Why Solution 2 is paler than 1

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	879	79.0	16.7	3.8	0.6	79.0	81.2	76.5
	2015	560	76.3	21.1	2.6	0.0	76.3	76.5	76.1
Norway (8)	2011	560	76.7	14.2	8.7	0.4	76.7	82.2	72.0
	2015	667	75.4	15.8	8.8	0.0	75.4	80.3	70.5
Abu Dhabi, UAE	2011	632	47.5	44.2	7.6	0.7	47.5	50.0	45.2
	2015	693	47.8	40.5	11.7	0.1	47.8	56.9	38.2
Dubai, UAE	2011	799	52.6	34.0	12.8	0.6	52.6	63.3	42.5
	2015	869	59.5	32.0	8.5	0.0	59.5	63.8	54.9
Florida, US	2011	246	64.3	29.2	6.0	0.5	64.3	64.7	63.9
	2015	286	61.7	34.6	3.4	0.3	61.7	67.3	56.2

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_08 (S052150): Chemistry / Knowing Type: MC Key: D
Label: Which is a physical change

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	37.8	16.1	12.8	31.5	37.8	1.7	0.0	34.4	41.1
	2015	1472	44.1	18.1	12.7	23.9	44.1	1.0	0.2	43.0	45.2
Bahrain	2011	654	34.9	33.3	19.4	10.6	34.9	1.3	0.5	34.5	35.2
	2015	706	37.6	27.5	22.0	11.7	37.6	1.1	0.1	39.1	36.2
Botswana	2011	772	64.4	9.5	11.3	14.0	64.4	0.9	0.0	66.9	61.7
	2015	843	48.8	16.1	14.4	18.0	48.8	1.5	1.1	54.5	42.7
Chile	2011	819	22.4	29.9	27.3	18.9	22.4	1.5	0.2	20.2	24.9
	2015	695	24.5	34.0	25.3	14.1	24.5	1.6	0.6	21.7	26.8
Chinese Taipei	2011	720	61.6	7.4	20.0	10.6	61.6	0.2	0.1	61.9	61.4
	2015	818	57.3	9.4	23.5	9.8	57.3	0.1	0.0	52.4	61.9
England	2011	539	35.3	14.4	15.4	32.3	35.3	1.9	0.6	34.8	35.8
	2015	687	33.4	17.4	14.1	32.8	33.4	1.5	0.9	32.1	34.9
Georgia	2011	652	55.9	15.0	19.3	8.1	55.9	1.2	0.6	58.0	53.5
	2015	581	53.1	21.6	13.7	10.3	53.1	1.1	0.2	57.0	49.0
Hong Kong SAR	2011	575	23.2	11.3	35.6	29.5	23.2	0.3	0.0	18.2	28.4
	2015	597	26.0	14.9	34.0	24.8	26.0	0.2	0.2	22.6	29.3
Hungary	2011	745	44.8	17.9	18.7	17.6	44.8	1.0	0.0	37.2	51.7
	2015	688	37.9	18.2	20.7	21.7	37.9	1.6	0.0	31.4	43.8
Iran, Islamic Rep. of	2011	859	75.0	11.3	8.2	4.8	75.0	0.5	0.2	75.6	74.6
	2015	877	74.1	8.9	10.3	5.6	74.1	0.3	0.9	76.7	71.9
Israel	2011	681	43.7	23.8	18.0	12.6	43.7	1.3	0.7	45.1	42.2
	2015	793	41.8	21.1	18.5	15.9	41.8	1.1	1.5	40.4	43.3
Italy	2011	562	40.9	17.3	21.6	19.4	40.9	0.9	0.0	38.8	43.0
	2015	663	34.2	20.4	22.2	20.8	34.2	2.1	0.4	34.0	34.4
Japan	2011	615	22.7	14.7	45.2	17.1	22.7	0.3	0.0	17.0	28.4
	2015	669	18.3	11.6	55.0	14.2	18.3	0.9	0.0	12.2	25.0
Jordan	2011	1100	33.7	29.3	24.4	10.1	33.7	2.1	0.4	37.6	30.0
	2015	1125	26.1	31.5	29.3	11.4	26.1	1.2	0.5	28.7	23.5
Kazakhstan	2011	631	43.1	18.8	24.1	12.6	43.1	0.9	0.5	40.5	45.3
	2015	698	56.0	16.7	14.8	10.4	56.0	1.9	0.3	57.8	54.2
Korea, Rep. of	2011	736	41.0	9.2	33.2	16.4	41.0	0.1	0.0	29.7	53.0
	2015	751	39.9	6.1	36.4	17.5	39.9	0.1	0.0	28.8	50.2
Lebanon	2011	547	29.5	25.9	26.2	15.6	29.5	2.4	0.3	29.1	30.0
	2015	538	27.4	25.0	22.3	18.0	27.4	5.3	1.8	25.8	29.0
Lithuania	2011	685	36.4	19.2	25.1	17.0	36.4	2.3	0.0	32.3	40.6
	2015	620	30.7	20.6	29.2	18.4	30.7	1.1	0.0	23.9	37.3

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_08 (S052150): Chemistry / Knowing Type: MC Key: D
Label: Which is a physical change

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	26.7	12.9	37.3	21.3	26.7	0.8	1.1	24.8	28.7
	2015	1394	36.5	9.3	35.9	17.3	36.5	0.7	0.5	35.6	37.3
Morocco	2011	1261	17.5	48.9	22.8	8.5	17.5	1.7	0.5	20.4	15.1
	2015	1730	25.0	39.7	24.7	7.3	25.0	2.6	0.7	23.9	25.9
New Zealand	2011	762	33.6	18.3	16.2	29.7	33.6	1.8	0.3	27.1	39.4
	2015	1150	35.5	18.8	15.8	26.9	35.5	2.1	0.8	34.4	36.7
Oman	2011	1377	25.2	37.4	21.2	13.3	25.2	2.6	0.3	28.7	21.5
	2015	1273	28.1	35.7	21.5	12.3	28.1	1.8	0.6	29.9	26.3
Qatar	2011	640	28.4	24.1	29.6	16.6	28.4	1.2	0.0	31.5	25.4
	2015	769	27.2	28.9	28.8	12.4	27.2	2.0	0.7	29.5	24.9
Russian Federation	2011	707	43.2	19.2	15.6	19.8	43.2	1.9	0.2	43.7	42.8
	2015	685	54.9	16.3	10.4	15.8	54.9	2.5	0.0	57.7	52.1
Saudi Arabia	2011	619	38.3	33.2	18.6	9.2	38.3	0.7	0.0	41.2	35.6
	2015	541	27.0	33.6	29.2	9.1	27.0	1.2	0.0	29.6	24.2
Singapore	2011	855	52.6	13.0	18.2	15.8	52.6	0.1	0.2	47.8	57.2
	2015	873	57.0	11.7	13.6	17.6	57.0	0.0	0.1	53.0	60.9
Slovenia	2011	628	43.4	21.5	19.3	10.9	43.4	4.8	0.0	42.9	43.9
	2015	607	44.7	20.0	21.4	10.6	44.7	3.2	0.0	47.3	41.9
South Africa	2011	1694	23.8	26.2	17.0	30.4	23.8	1.8	0.8	25.5	22.1
	2015	1795	31.6	23.7	15.5	26.1	31.6	2.3	0.9	34.6	28.4
Sweden	2011	796	16.2	31.2	22.6	27.0	16.2	2.4	0.6	17.0	15.4
	2015	574	19.8	33.3	16.1	27.5	19.8	2.9	0.5	18.0	21.6
Thailand	2011	865	27.3	16.4	19.8	34.9	27.3	1.4	0.2	29.9	24.2
	2015	927	37.3	12.0	18.3	31.3	37.3	0.7	0.4	37.5	37.2
Turkey	2011	998	52.8	16.1	17.7	13.1	52.8	0.2	0.0	52.6	53.0
	2015	865	53.7	12.2	16.9	17.1	53.7	0.0	0.1	57.3	50.3
United Arab Emirates	2011	2024	37.5	29.1	19.8	12.2	37.5	0.6	0.8	37.2	37.7
	2015	2581	43.2	23.1	18.8	12.6	43.2	2.2	0.1	43.3	43.0
United States	2011	1499	54.5	15.5	12.7	16.1	54.5	1.0	0.4	50.4	59.0
	2015	1464	58.0	14.5	9.5	16.1	58.0	1.5	0.4	54.6	61.2

International Avg (n=33)	2011	28488	38.4	20.8	21.6	17.5	38.4	1.3	0.3	37.3	39.5
	2015	31049	39.1	20.4	21.7	16.9	39.1	1.5	0.4	38.4	39.7

Ontario, Canada	2011	675	31.6	18.5	14.4	32.4	31.6	2.5	0.6	27.7	35.5
	2015	629	32.6	19.4	13.9	31.4	32.6	1.5	1.1	29.7	35.9

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SI3_08 (S052150): Chemistry / Knowing Type: MC Key: D
Label: Which is a physical change

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	36.3	23.4	17.7	16.6	36.3	5.2	0.8	33.5	39.3
	2015	550	46.5	19.6	18.4	15.5	46.5	0.0	0.0	41.7	51.3
Norway (8)	2011	560	24.5	19.9	23.1	30.1	24.5	2.1	0.4	27.6	21.7
	2015	667	21.9	18.2	21.2	34.7	21.9	3.9	0.0	21.3	22.6
Abu Dhabi, UAE	2011	632	39.8	27.4	20.1	11.2	39.8	0.6	0.9	35.9	43.5
	2015	693	36.3	26.2	20.2	14.2	36.3	3.1	0.1	40.0	32.4
Dubai, UAE	2011	799	35.4	31.8	17.6	13.5	35.4	1.3	0.6	36.2	34.6
	2015	869	51.2	18.8	15.2	13.3	51.2	1.4	0.2	46.3	56.3
Florida, US	2011	246	61.7	10.9	9.8	16.1	61.7	1.0	0.5	49.7	73.0
	2015	286	63.7	13.7	11.3	9.9	63.7	1.0	0.3	58.4	69.0

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_09A (S052243A): Physics / Reasoning Type: CR 1 Point
Label: Model flashlight: Bulb won't light

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	37.4	1.6	49.3	11.7	0.0	37.4	34.3	40.5
	2015	1472	30.8	0.5	59.3	9.2	0.2	30.8	28.0	33.6
Bahrain	2011	654	41.7	4.8	29.5	23.5	0.5	41.7	49.7	33.7
	2015	706	39.7	0.4	36.2	23.7	0.1	39.7	50.1	29.5
Botswana	2011	772	30.8	1.5	61.4	6.3	0.0	30.8	23.8	38.2
	2015	843	29.6	0.0	59.5	9.7	1.1	29.6	26.7	32.7
Chile	2011	819	36.6	0.4	47.4	15.5	0.2	36.6	35.5	37.8
	2015	695	36.4	0.7	37.3	24.7	0.9	36.4	41.4	32.1
Chinese Taipei	2011	720	61.7	0.5	26.3	11.3	0.1	61.7	62.1	61.4
	2015	818	60.5	2.7	25.9	11.0	0.0	60.5	59.3	61.6
England	2011	539	51.8	2.0	36.8	8.8	0.6	51.8	50.0	53.9
	2015	687	47.1	0.5	43.6	8.0	0.9	47.1	45.2	49.2
Georgia	2011	652	34.2	2.4	15.2	47.6	0.6	34.2	32.7	36.0
	2015	581	31.0	0.4	28.4	39.9	0.2	31.0	28.8	33.3
Hong Kong SAR	2011	575	54.7	2.1	28.4	14.9	0.0	54.7	51.3	58.3
	2015	597	54.6	0.8	34.5	10.0	0.2	54.6	51.5	57.6
Hungary	2011	745	52.9	0.9	30.6	15.6	0.0	52.9	50.5	55.1
	2015	688	50.3	1.2	31.6	16.8	0.0	50.3	46.1	54.2
Iran, Islamic Rep. of	2011	859	51.3	6.5	25.5	16.5	0.2	51.3	47.4	54.6
	2015	877	45.4	3.9	31.8	18.0	0.9	45.4	44.2	46.5
Israel	2011	681	50.2	3.4	29.2	16.5	0.7	50.2	46.3	54.3
	2015	793	51.9	1.0	30.5	15.1	1.5	51.9	56.0	47.6
Italy	2011	562	35.1	0.0	38.9	25.9	0.0	35.1	31.0	39.4
	2015	663	35.5	1.7	37.6	24.8	0.4	35.5	37.1	34.1
Japan	2011	615	58.8	1.8	34.5	4.9	0.0	58.8	54.7	62.9
	2015	669	59.6	1.2	33.2	6.0	0.0	59.6	52.0	68.0
Jordan	2011	1100	41.1	1.2	41.4	15.8	0.5	41.1	43.7	38.6
	2015	1125	41.7	0.1	42.4	15.2	0.5	41.7	45.4	38.0
Kazakhstan	2011	631	43.8	2.2	25.5	27.9	0.6	43.8	41.9	45.4
	2015	697	70.7	0.1	10.5	18.4	0.3	70.7	72.4	69.1
Korea, Rep. of	2011	736	40.2	2.8	47.9	9.0	0.0	40.2	39.1	41.4
	2015	751	41.0	2.3	49.1	7.5	0.0	41.0	42.4	39.8
Lebanon	2011	560	23.9	0.4	43.1	32.3	0.3	23.9	25.6	21.8
	2015	552	26.8	0.0	36.3	35.1	1.8	26.8	26.4	27.2
Lithuania	2011	685	48.1	5.6	31.6	14.8	0.0	48.1	45.5	50.8
	2015	620	43.6	4.2	43.2	8.9	0.0	43.6	44.3	42.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_09A (S052243A): Physics / Reasoning Type: CR 1 Point
Label: Model flashlight: Bulb won't light

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	40.3	3.6	39.5	15.4	1.2	40.3	36.7	44.2
	2015	1394	50.5	1.5	37.9	9.7	0.5	50.5	52.3	48.7
Morocco	2011	1269	23.9	0.3	44.6	30.7	0.5	23.9	19.6	27.8
	2015	1730	14.2	0.3	59.5	25.1	0.8	14.2	13.9	14.5
New Zealand	2011	762	43.2	0.4	45.1	11.0	0.3	43.2	39.1	46.8
	2015	1150	40.5	0.8	47.4	10.1	1.2	40.5	38.5	42.6
Oman	2011	1377	46.6	1.1	29.8	22.2	0.3	46.6	56.5	36.2
	2015	1269	40.1	3.6	40.2	15.5	0.6	40.1	43.0	37.2
Qatar	2011	640	31.9	2.7	39.5	25.8	0.0	31.9	31.6	32.3
	2015	769	43.2	0.9	39.5	15.7	0.7	43.2	42.1	44.1
Russian Federation	2011	707	41.5	1.6	39.6	17.0	0.2	41.5	36.7	45.7
	2015	685	42.6	0.0	36.4	21.1	0.0	42.6	37.4	47.8
Saudi Arabia	2011	620	44.5	5.0	30.4	19.9	0.1	44.5	47.1	42.1
	2015	541	40.3	0.0	32.8	26.7	0.2	40.3	46.9	33.4
Singapore	2011	855	69.4	2.0	25.3	3.1	0.2	69.4	66.6	72.0
	2015	873	71.5	0.4	25.9	2.2	0.1	71.5	70.5	72.5
Slovenia	2011	628	55.1	3.2	29.0	12.7	0.0	55.1	54.1	56.0
	2015	607	59.5	0.9	31.3	8.4	0.0	59.5	63.2	55.3
South Africa	2011	1694	12.6	5.4	61.6	19.5	0.8	12.6	12.4	12.7
	2015	1795	19.0	4.3	63.3	12.2	1.1	19.0	19.6	18.5
Sweden	2011	796	28.2	1.8	52.2	17.1	0.7	28.2	27.2	29.1
	2015	574	47.6	6.5	33.2	12.0	0.7	47.6	49.2	46.0
Thailand	2011	865	31.9	2.7	28.5	36.6	0.2	31.9	31.8	32.1
	2015	927	33.0	0.4	34.6	31.6	0.4	33.0	34.0	31.9
Turkey	2011	998	46.3	4.2	38.5	11.0	0.0	46.3	44.2	48.5
	2015	865	49.5	0.3	41.0	9.1	0.1	49.5	50.2	48.8
United Arab Emirates	2011	2024	40.7	1.1	41.8	15.6	0.8	40.7	42.7	38.7
	2015	2581	41.1	2.2	41.7	14.9	0.1	41.1	43.3	38.8
United States	2011	1499	28.8	1.6	61.9	7.3	0.4	28.8	25.4	32.5
	2015	1464	26.8	0.8	69.8	1.9	0.7	26.8	23.3	30.1

International Avg (n=33)	2011	28510	41.8	2.3	37.9	17.7	0.3	41.8	40.5	43.1
	2015	31058	42.9	1.4	39.6	15.7	0.5	42.9	43.2	42.6

Ontario, Canada	2011	675	51.0	1.7	37.2	9.3	0.8	51.0	49.6	52.3
	2015	631	41.4	2.2	46.6	8.4	1.5	41.4	42.7	39.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_09A (S052243A): Physics / Reasoning Type: CR 1 Point
Label: Model flashlight: Bulb won't light

COUNTRY	Year	N	10 %	70 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	46.8	0.3	39.9	12.2	0.9	46.8	44.4	49.4
	2015	560	48.9	0.1	42.9	8.1	0.0	48.9	41.3	56.5
Norway (8)	2011	560	36.6	1.8	42.3	18.9	0.4	36.6	36.9	36.3
	2015	667	38.5	2.2	42.4	16.9	0.0	38.5	35.6	41.3
Abu Dhabi, UAE	2011	632	43.1	1.4	39.0	15.6	0.9	43.1	43.5	42.7
	2015	693	38.2	3.5	41.2	17.1	0.1	38.2	39.2	37.1
Dubai, UAE	2011	799	39.8	1.4	42.6	15.6	0.6	39.8	41.8	37.9
	2015	869	50.9	1.5	39.5	8.0	0.2	50.9	53.4	48.3
Florida, US	2011	246	22.2	1.9	64.5	10.9	0.5	22.2	18.3	25.9
	2015	286	21.9	1.2	72.3	4.2	0.3	21.9	20.4	23.5

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_09B (S052243B): Physics / Applying Type: CR 1 Point
Label: Model flashlight: 2 parallel bulbs

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	44.6	52.8	2.2	0.4	44.6	44.2	45.1
	2015	1472	37.2	59.1	3.4	0.2	37.2	38.5	35.9
Bahrain	2011	654	38.8	58.8	2.0	0.5	38.8	47.3	30.3
	2015	706	40.0	56.7	3.1	0.3	40.0	51.8	28.5
Botswana	2011	772	29.2	69.9	0.8	0.1	29.2	31.1	27.3
	2015	843	28.4	68.5	1.6	1.4	28.4	28.3	28.4
Chile	2011	819	42.2	55.2	2.2	0.4	42.2	44.9	38.9
	2015	695	38.9	53.7	6.0	1.4	38.9	45.4	33.5
Chinese Taipei	2011	720	37.2	61.6	1.0	0.1	37.2	37.7	36.7
	2015	818	39.6	59.6	0.8	0.0	39.6	39.9	39.3
England	2011	539	61.2	37.0	1.1	0.6	61.2	63.2	58.9
	2015	687	52.3	44.7	1.8	1.2	52.3	55.6	48.8
Georgia	2011	652	17.8	66.3	14.7	1.1	17.8	15.7	20.2
	2015	581	23.5	67.1	8.0	1.4	23.5	23.1	23.9
Hong Kong SAR	2011	575	51.3	47.1	1.6	0.0	51.3	53.5	48.9
	2015	597	55.6	42.9	1.4	0.2	55.6	57.2	53.9
Hungary	2011	745	51.9	45.2	2.9	0.0	51.9	45.8	57.5
	2015	688	52.5	45.1	2.4	0.0	52.5	46.8	57.6
Iran, Islamic Rep. of	2011	859	46.0	51.5	2.1	0.3	46.0	46.5	45.6
	2015	877	43.0	52.0	3.5	1.5	43.0	44.3	41.8
Israel	2011	681	46.8	50.0	2.4	0.7	46.8	50.4	43.1
	2015	793	46.1	48.9	3.2	1.8	46.1	51.3	40.6
Italy	2011	562	43.7	48.3	7.6	0.4	43.7	45.4	41.9
	2015	663	40.4	52.8	6.2	0.6	40.4	37.9	42.6
Japan	2011	615	50.3	49.0	0.6	0.0	50.3	51.1	49.6
	2015	669	51.9	47.7	0.4	0.0	51.9	51.5	52.2
Jordan	2011	1100	37.1	60.7	1.7	0.5	37.1	41.6	32.7
	2015	1125	34.5	63.0	2.0	0.6	34.5	41.5	27.3
Kazakhstan	2011	631	40.5	48.8	9.7	1.0	40.5	44.9	36.7
	2015	697	53.9	40.7	5.1	0.3	53.9	59.8	48.0
Korea, Rep. of	2011	736	55.4	42.7	1.8	0.1	55.4	59.6	51.0
	2015	751	38.1	60.8	1.1	0.0	38.1	35.1	40.9
Lebanon	2011	560	23.3	69.2	6.8	0.7	23.3	24.1	22.3
	2015	551	22.7	65.2	9.8	2.3	22.7	27.5	17.7
Lithuania	2011	685	28.3	69.9	1.8	0.0	28.3	29.9	26.7
	2015	620	35.7	62.2	2.1	0.0	35.7	35.9	35.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S13_09B (S052243B): Physics / Applying Type: CR 1 Point
Label: Model flashlight: 2 parallel bulbs

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	32.7	62.2	3.4	1.8	32.7	34.9	30.3
	2015	1394	39.6	55.6	4.1	0.7	39.6	39.6	39.5
Morocco	2011	1270	16.7	68.8	13.6	1.0	16.7	18.9	14.7
	2015	1730	27.2	65.0	6.5	1.3	27.2	26.8	27.5
New Zealand	2011	762	54.3	42.2	3.1	0.5	54.3	53.2	55.4
	2015	1150	47.6	48.8	2.3	1.3	47.6	52.1	42.8
Oman	2011	1377	33.8	62.5	3.1	0.6	33.8	44.2	22.9
	2015	1273	41.6	55.3	2.4	0.7	41.6	52.4	31.4
Qatar	2011	640	34.2	63.3	2.1	0.5	34.2	37.2	31.1
	2015	769	36.7	61.4	1.0	0.9	36.7	43.2	30.6
Russian Federation	2011	707	46.3	50.0	3.4	0.2	46.3	44.1	48.3
	2015	685	44.0	52.2	3.8	0.0	44.0	42.8	45.3
Saudi Arabia	2011	620	41.2	57.6	1.0	0.1	41.2	49.5	33.5
	2015	541	29.3	69.2	1.4	0.2	29.3	37.6	20.5
Singapore	2011	855	82.9	16.7	0.0	0.4	82.9	84.6	81.3
	2015	873	85.3	14.5	0.1	0.1	85.3	86.5	84.1
Slovenia	2011	628	54.1	44.2	1.7	0.0	54.1	56.5	52.1
	2015	607	47.9	50.6	1.5	0.0	47.9	56.0	38.8
South Africa	2011	1694	15.7	80.7	2.4	1.2	15.7	15.5	15.9
	2015	1795	29.9	66.6	2.1	1.4	29.9	31.5	28.1
Sweden	2011	796	47.0	50.0	2.2	0.9	47.0	50.3	43.8
	2015	574	56.1	40.5	2.5	0.9	56.1	58.2	53.9
Thailand	2011	865	22.4	63.8	13.4	0.5	22.4	24.9	19.4
	2015	927	22.3	71.8	5.3	0.5	22.3	23.6	20.8
Turkey	2011	998	36.7	61.2	2.0	0.2	36.7	38.7	34.7
	2015	865	45.1	53.3	1.2	0.3	45.1	48.6	42.0
United Arab Emirates	2011	2024	41.4	56.3	1.4	0.8	41.4	46.2	36.6
	2015	2581	45.6	51.7	2.6	0.1	45.6	49.7	41.3
United States	2011	1499	42.4	55.6	1.4	0.6	42.4	42.9	41.9
	2015	1464	39.4	58.2	1.4	1.0	39.4	41.3	37.5

International Avg (n=33)	2011	28511	40.8	55.1	3.6	0.5	40.8	43.0	38.6
	2015	31061	41.6	54.7	3.0	0.7	41.6	44.3	38.8

Ontario, Canada	2011	675	50.4	45.7	3.1	0.8	50.4	55.0	45.7
	2015	631	45.8	48.6	4.1	1.5	45.8	48.6	42.9

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

S13_09B (S052243B): Physics / Applying Type: CR 1 Point
Label: Model flashlight: 2 parallel bulbs

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	43.1	52.3	3.8	0.9	43.1	46.6	39.1
	2015	560	42.2	53.7	4.1	0.0	42.2	39.4	45.0
Norway (8)	2011	560	28.4	68.6	2.6	0.4	28.4	29.5	27.4
	2015	667	29.1	65.1	5.7	0.2	29.1	30.5	27.8
Abu Dhabi, UAE	2011	632	43.3	54.9	1.0	0.9	43.3	46.9	39.9
	2015	693	43.7	53.0	3.1	0.2	43.7	51.1	36.0
Dubai, UAE	2011	799	44.4	51.5	3.4	0.7	44.4	51.9	37.3
	2015	869	56.2	42.2	1.4	0.2	56.2	56.1	56.2
Florida, US	2011	246	34.1	63.4	2.0	0.5	34.1	29.1	38.8
	2015	286	32.2	64.0	2.7	1.0	32.2	32.5	32.0

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_09C (S052243C): Physics / Reasoning Type: MC Key: C
Label: Model flashlights: Comparison

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	48.8	7.2	27.3	48.8	13.1	3.3	0.4	48.3	49.4
	2015	1472	50.2	7.2	25.3	50.2	11.3	5.6	0.4	52.0	48.3
Bahrain	2011	654	33.9	9.2	32.2	33.9	21.7	2.6	0.5	33.8	33.9
	2015	706	35.7	9.8	33.9	35.7	17.5	2.9	0.3	35.4	36.0
Botswana	2011	772	27.6	11.3	31.4	27.6	28.8	0.7	0.3	26.8	28.3
	2015	844	24.4	13.5	32.1	24.4	25.6	2.7	1.6	20.2	29.0
Chile	2011	819	50.0	10.1	20.0	50.0	16.4	3.0	0.4	50.4	49.6
	2015	695	48.7	10.7	23.9	48.7	11.9	3.4	1.4	48.3	49.0
Chinese Taipei	2011	720	67.4	3.7	19.0	67.4	9.5	0.2	0.1	67.8	67.1
	2015	818	70.1	4.1	17.3	70.1	8.2	0.3	0.0	70.3	69.9
England	2011	539	42.0	2.5	43.2	42.0	7.2	4.4	0.6	40.0	44.3
	2015	687	44.0	5.2	35.4	44.0	9.5	4.6	1.3	43.2	44.8
Georgia	2011	652	26.8	11.2	22.6	26.8	26.0	12.3	1.1	26.0	27.7
	2015	582	29.6	13.1	25.9	29.6	21.0	8.9	1.4	28.7	30.7
Hong Kong SAR	2011	575	54.2	4.8	32.0	54.2	7.3	1.7	0.0	54.1	54.3
	2015	597	54.5	3.7	32.3	54.5	8.0	1.4	0.2	50.8	58.1
Hungary	2011	745	47.9	7.2	23.9	47.9	16.3	4.7	0.0	39.4	55.5
	2015	688	47.9	6.6	30.2	47.9	13.1	2.2	0.0	42.7	52.8
Iran, Islamic Rep. of	2011	859	31.6	8.8	26.5	31.6	29.2	3.6	0.3	30.9	32.1
	2015	877	32.5	8.4	25.1	32.5	27.4	4.8	2.0	29.0	35.5
Israel	2011	681	44.4	8.2	29.7	44.4	13.4	3.5	0.8	41.9	46.9
	2015	793	43.9	7.2	28.6	43.9	15.0	3.2	2.0	43.0	44.9
Italy	2011	562	47.3	6.1	15.8	47.3	22.5	7.8	0.4	47.0	47.7
	2015	663	49.9	5.4	16.6	49.9	23.3	4.2	0.6	49.8	50.0
Japan	2011	615	42.0	5.0	39.1	42.0	13.1	0.8	0.0	41.3	42.7
	2015	669	43.5	6.8	37.9	43.5	11.1	0.7	0.0	42.3	44.8
Jordan	2011	1100	33.6	10.0	30.8	33.6	20.4	4.4	0.6	29.9	37.3
	2015	1125	33.4	11.2	28.8	33.4	21.6	4.5	0.6	34.5	32.4
Kazakhstan	2011	631	31.7	15.8	20.2	31.7	25.0	6.2	1.0	27.7	35.2
	2015	698	35.7	20.5	21.9	35.7	14.8	6.8	0.3	30.4	41.1
Korea, Rep. of	2011	0	.	.	.	.	.	.	.	.	.
	2015	751	53.6	3.8	30.5	53.6	11.3	0.8	0.0	53.2	53.9
Lebanon	2011	550	31.3	9.3	30.0	31.3	18.2	10.5	0.7	31.2	31.4
	2015	548	26.3	11.3	34.0	26.3	8.4	17.4	2.7	26.2	26.3
Lithuania	2011	685	58.3	6.0	17.5	58.3	14.8	3.4	0.0	55.5	61.2
	2015	620	62.0	5.3	19.1	62.0	12.1	1.4	0.1	60.9	63.1

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_09C (S052243C): Physics / Reasoning Type: MC Key: C
Label: Model flashlights: Comparison

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	33.8	10.0	40.8	33.8	12.1	1.5	1.9	33.1	34.6
	2015	1394	41.1	9.0	37.0	41.1	10.2	1.9	0.9	38.9	43.1
Morocco	2011	1251	26.0	10.8	41.1	26.0	15.5	5.6	1.0	25.4	26.4
	2015	1729	24.1	10.6	41.5	24.1	16.8	5.4	1.5	20.1	27.5
New Zealand	2011	762	50.7	5.2	26.4	50.7	12.6	4.6	0.5	47.7	53.4
	2015	1150	52.0	7.7	23.1	52.0	13.3	2.5	1.3	53.2	50.8
Oman	2011	1377	23.5	12.0	35.9	23.5	22.6	5.1	0.8	20.5	26.7
	2015	1273	27.3	11.9	36.5	27.3	20.8	2.6	0.9	24.8	29.7
Qatar	2011	640	33.0	9.4	37.5	33.0	15.5	4.2	0.5	31.4	34.5
	2015	769	37.0	11.0	34.7	37.0	14.5	1.7	1.0	33.4	40.4
Russian Federation	2011	707	52.6	8.3	22.3	52.6	12.4	4.2	0.2	53.1	52.2
	2015	685	52.1	7.1	24.9	52.1	12.3	3.5	0.2	46.5	57.8
Saudi Arabia	2011	618	32.3	11.3	29.7	32.3	23.5	3.1	0.1	30.7	33.7
	2015	540	33.6	15.3	29.8	33.6	19.3	1.8	0.2	29.8	37.6
Singapore	2011	855	29.3	5.5	58.5	29.3	5.8	0.6	0.4	28.2	30.2
	2015	873	43.2	7.8	41.8	43.2	7.1	0.0	0.1	44.2	42.2
Slovenia	2011	628	53.4	4.4	27.9	53.4	10.2	4.2	0.0	52.6	54.1
	2015	607	53.4	5.8	23.7	53.4	14.2	2.9	0.0	52.2	54.8
South Africa	2011	1694	23.1	19.6	27.4	23.1	22.3	6.1	1.6	21.9	24.2
	2015	1795	20.2	22.2	32.1	20.2	20.8	3.1	1.7	19.7	20.6
Sweden	2011	796	47.3	5.7	28.2	47.3	12.1	5.8	0.9	46.5	48.1
	2015	574	54.0	8.4	25.1	54.0	7.6	3.8	1.0	57.4	50.5
Thailand	2011	865	34.7	7.5	24.8	34.7	25.3	7.2	0.5	34.3	35.2
	2015	927	35.1	11.2	25.3	35.1	25.4	2.3	0.7	32.5	38.0
Turkey	2011	998	34.0	8.1	37.1	34.0	18.1	2.6	0.2	31.0	37.0
	2015	865	35.4	8.3	37.9	35.4	17.5	0.5	0.3	31.4	39.1
United Arab Emirates	2011	2024	34.8	13.7	31.1	34.8	16.9	2.6	0.8	35.0	34.7
	2015	2580	39.0	13.2	31.3	39.0	13.5	2.7	0.2	37.1	41.0
United States	2011	1499	53.4	7.9	20.0	53.4	17.0	1.1	0.6	50.2	56.9
	2015	1464	51.9	6.6	21.9	51.9	16.3	2.3	1.0	53.2	50.5

International Avg (n=33)	2011	27744	40.0	8.6	29.7	40.0	17.0	4.1	0.5	38.6	41.5
	2015	31058	42.0	9.4	29.3	42.0	15.2	3.4	0.8	40.5	43.5

Ontario, Canada	2011	675	52.5	7.7	20.7	52.5	15.0	3.3	0.9	50.2	54.8
	2015	631	51.4	6.9	24.3	51.4	12.3	3.2	1.9	54.8	47.7

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

S13_09C (S052243C): Physics / Reasoning Type: MC Key: C
Label: Model flashlights: Comparison

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	54.4	6.8	18.6	54.4	13.6	5.8	0.9	55.1	53.6
	2015	555	56.6	6.5	18.1	56.6	14.2	4.5	0.0	52.8	60.3
Norway (8)	2011	560	48.3	7.7	26.5	48.3	11.1	6.0	0.4	47.5	49.0
	2015	667	51.1	8.9	23.9	51.1	11.0	4.8	0.2	55.2	47.1
Abu Dhabi, UAE	2011	632	33.1	16.0	32.6	33.1	16.2	1.3	0.9	33.4	32.8
	2015	693	32.4	17.0	33.6	32.4	13.6	3.2	0.2	30.9	34.0
Dubai, UAE	2011	799	41.3	9.8	29.8	41.3	13.9	4.6	0.7	41.3	41.3
	2015	869	49.9	7.5	28.9	49.9	12.0	1.4	0.2	47.6	52.4
Florida, US	2011	246	50.2	7.0	24.5	50.2	17.2	0.6	0.5	49.5	50.8
	2015	286	51.6	7.5	21.8	51.6	15.5	2.5	1.0	49.3	53.8

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_10 (S052206): Physics / Knowing Type: MC Key: A
Label: Two bar magnets repelling

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	41.8	41.8	25.8	25.0	5.1	1.8	0.4	39.5	44.1
	2015	1472	38.4	38.4	22.0	31.7	4.6	2.4	0.8	37.5	39.4
Bahrain	2011	654	35.7	35.7	14.1	39.9	8.1	1.5	0.7	32.4	38.9
	2015	706	39.4	39.4	15.2	35.4	7.8	1.5	0.7	41.5	37.3
Botswana	2011	772	39.4	39.4	25.9	22.5	11.4	0.5	0.4	38.1	40.7
	2015	844	43.8	43.8	20.7	23.2	8.3	1.6	2.4	45.3	42.3
Chile	2011	819	38.2	38.2	18.1	34.6	7.0	1.3	0.8	35.7	41.2
	2015	695	43.6	43.6	17.4	27.3	7.1	3.2	1.4	41.6	45.2
Chinese Taipei	2011	720	50.9	50.9	10.0	36.7	1.9	0.4	0.1	48.2	53.6
	2015	818	48.9	48.9	7.5	41.1	2.3	0.3	0.0	48.3	49.4
England	2011	539	39.1	39.1	18.5	36.2	2.7	2.8	0.6	38.0	40.3
	2015	687	32.0	32.0	22.7	37.0	3.8	3.0	1.3	32.1	32.0
Georgia	2011	652	19.1	19.1	34.8	29.9	10.9	4.1	1.2	13.4	25.6
	2015	582	42.5	42.5	24.8	20.2	8.2	2.8	1.5	38.9	46.3
Hong Kong SAR	2011	575	40.6	40.6	8.1	48.6	1.7	1.0	0.0	38.1	43.2
	2015	597	44.3	44.3	6.3	45.4	3.2	0.6	0.2	39.0	49.6
Hungary	2011	745	73.0	73.0	11.5	13.1	1.5	0.7	0.1	69.4	76.4
	2015	688	71.9	71.9	9.9	13.5	3.8	0.9	0.0	69.7	74.0
Iran, Islamic Rep. of	2011	859	66.0	66.0	11.2	15.8	5.7	0.9	0.3	65.9	66.1
	2015	877	66.6	66.6	10.3	16.2	3.1	1.6	2.2	69.0	64.5
Israel	2011	681	55.7	55.7	20.5	14.3	7.0	1.6	0.9	52.2	59.3
	2015	793	54.1	54.1	17.8	12.9	10.1	2.8	2.2	52.6	55.7
Italy	2011	562	51.9	51.9	22.6	16.8	5.3	2.8	0.5	47.6	56.5
	2015	663	53.4	53.4	21.9	16.7	5.9	1.6	0.6	50.5	55.9
Japan	2011	615	78.6	78.6	6.9	12.2	1.6	0.6	0.0	77.0	80.2
	2015	669	79.6	79.6	6.1	11.3	2.2	0.4	0.3	81.8	77.3
Jordan	2011	1100	35.8	35.8	12.6	42.4	7.9	0.7	0.6	34.0	37.5
	2015	1125	34.5	34.5	12.1	42.2	7.7	2.6	0.8	31.2	37.9
Kazakhstan	2011	631	64.4	64.4	15.8	13.2	3.9	1.5	1.3	58.9	69.2
	2015	698	68.7	68.7	13.3	12.8	3.9	0.9	0.4	71.3	66.0
Korea, Rep. of	2011	736	85.7	85.7	10.0	2.9	1.1	0.1	0.1	86.7	84.7
	2015	751	74.8	74.8	17.3	5.1	2.4	0.5	0.0	77.0	72.7
Lebanon	2011	552	30.0	30.0	24.9	22.1	14.2	7.8	1.1	23.1	38.3
	2015	546	31.6	31.6	20.2	18.8	16.7	8.6	4.1	36.3	26.7
Lithuania	2011	685	44.8	44.8	26.6	24.7	3.1	0.6	0.2	40.3	49.6
	2015	620	54.6	54.6	22.6	16.3	5.4	1.0	0.1	54.7	54.5

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_10 (S052206): Physics / Knowing Type: MC Key: A
Label: Two bar magnets repelling

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	44.8	44.8	15.2	31.0	6.0	0.9	2.0	44.4	45.2
	2015	1394	56.9	56.9	13.4	22.1	4.8	1.2	1.6	57.3	56.6
Morocco	2011	1291	25.4	25.4	25.9	32.7	12.3	2.5	1.2	22.2	28.1
	2015	1730	18.6	18.6	25.6	35.4	14.9	3.7	1.7	16.5	20.4
New Zealand	2011	762	28.3	28.3	29.9	31.2	6.0	3.8	0.8	24.8	31.5
	2015	1150	24.5	24.5	29.4	36.3	5.5	2.8	1.4	20.5	28.8
Oman	2011	1377	36.8	36.8	22.9	20.3	16.6	2.4	1.0	39.6	33.9
	2015	1273	42.9	42.9	18.8	19.1	16.6	1.5	1.2	42.4	43.3
Qatar	2011	640	44.7	44.7	16.7	28.7	7.2	2.2	0.6	43.0	46.4
	2015	769	44.1	44.1	16.3	32.6	4.6	1.4	1.0	43.3	44.8
Russian Federation	2011	707	85.7	85.7	6.5	4.6	2.3	0.6	0.4	86.3	85.0
	2015	685	86.6	86.6	4.0	5.9	1.6	1.7	0.2	83.8	89.4
Saudi Arabia	2011	620	32.9	32.9	9.6	46.7	10.2	0.5	0.1	31.4	34.2
	2015	542	21.6	21.6	24.2	33.1	19.9	1.1	0.2	20.0	23.2
Singapore	2011	855	75.2	75.2	6.1	15.6	2.0	0.7	0.4	75.5	75.0
	2015	873	86.0	86.0	3.6	8.1	2.0	0.3	0.1	86.5	85.4
Slovenia	2011	628	44.3	44.3	16.2	34.1	3.2	1.9	0.3	37.7	50.0
	2015	607	43.5	43.5	24.3	27.4	2.1	2.6	0.1	38.9	48.5
South Africa	2011	1694	29.4	29.4	22.5	23.1	20.1	3.2	1.9	30.2	28.5
	2015	1795	29.2	29.2	26.9	24.5	14.6	2.7	2.1	27.9	30.6
Sweden	2011	796	63.5	63.5	19.5	9.6	4.3	1.9	1.2	59.6	67.2
	2015	574	68.3	68.3	17.2	7.4	3.8	2.0	1.2	68.4	68.3
Thailand	2011	865	50.4	50.4	20.6	17.9	8.2	2.3	0.6	48.4	52.8
	2015	927	48.4	48.4	23.3	16.3	10.1	1.0	0.8	47.1	49.9
Turkey	2011	998	71.0	71.0	8.8	14.8	4.3	0.9	0.2	70.3	71.8
	2015	865	73.0	73.0	7.7	13.0	5.9	0.1	0.3	74.2	71.9
United Arab Emirates	2011	2024	47.6	47.6	13.9	30.4	5.7	1.4	1.1	46.7	48.5
	2015	2580	46.8	46.8	17.5	26.1	6.0	3.4	0.2	45.6	48.0
United States	2011	1499	47.3	47.3	20.9	24.5	4.8	1.7	0.8	44.3	50.6
	2015	1464	52.4	52.4	17.5	23.4	3.0	2.3	1.4	48.9	56.1
International Avg (n=33)	2011	28524	49.0	49.0	17.4	24.7	6.5	1.7	0.7	46.8	51.3
	2015	31059	50.5	50.5	16.9	23.0	6.7	1.9	1.0	49.7	51.3
Ontario, Canada	2011	675	35.7	35.7	26.5	28.7	5.8	2.5	0.9	28.6	42.9
	2015	630	29.5	29.5	25.0	38.2	2.6	2.2	2.4	27.8	31.4

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SI3_10 (S052206): Physics / Knowing Type: MC Key: A
Label: Two bar magnets repelling

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	48.2	48.2	19.9	24.0	4.3	2.8	0.9	43.1	53.8
	2015	560	42.0	42.0	16.9	30.8	6.1	3.3	0.8	39.7	44.4
Norway (8)	2011	560	39.7	39.7	28.1	24.6	4.4	2.8	0.4	34.3	44.4
	2015	667	41.3	41.3	32.2	17.0	6.4	2.9	0.2	39.5	43.1
Abu Dhabi, UAE	2011	632	45.7	45.7	13.3	33.6	5.4	1.1	0.9	41.0	50.1
	2015	693	41.2	41.2	18.7	28.1	7.0	4.7	0.2	40.3	42.2
Dubai, UAE	2011	799	53.9	53.9	13.4	22.8	5.9	2.8	1.1	54.9	52.9
	2015	869	59.6	59.6	15.7	19.7	3.2	1.5	0.3	56.2	63.1
Florida, US	2011	246	57.0	57.0	18.5	17.7	4.7	1.2	0.9	52.2	61.5
	2015	286	46.3	46.3	19.2	27.0	3.8	2.7	1.0	43.9	48.6

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_11A (S052112A): Earth Science / Applying Type: MC Key: D
Label: Planets: Shortest day length

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	69.1	15.5	5.7	8.0	69.1	1.3	0.4	68.2	70.1
	2015	1472	70.5	14.6	3.8	9.2	70.5	1.0	0.8	70.2	70.8
Bahrain	2011	654	56.3	19.0	10.1	12.7	56.3	1.2	0.7	61.3	51.4
	2015	706	54.0	22.8	10.5	10.3	54.0	1.7	0.7	61.5	46.7
Botswana	2011	772	62.8	20.6	9.3	5.9	62.8	0.8	0.6	62.0	63.6
	2015	844	56.3	19.7	10.2	9.2	56.3	1.6	3.0	59.0	53.5
Chile	2011	819	65.9	15.2	6.2	10.4	65.9	1.4	0.9	67.8	63.6
	2015	695	70.8	13.1	5.1	7.2	70.8	2.4	1.4	69.7	71.8
Chinese Taipei	2011	720	66.4	16.4	4.9	12.0	66.4	0.1	0.1	65.6	67.2
	2015	818	72.2	12.7	4.8	10.1	72.2	0.3	0.0	70.2	74.0
England	2011	539	68.3	16.3	4.0	10.6	68.3	0.1	0.6	66.6	70.2
	2015	687	66.9	17.1	4.3	7.9	66.9	2.1	1.7	70.5	63.0
Georgia	2011	652	47.9	19.8	11.9	15.6	47.9	3.5	1.2	52.7	42.4
	2015	582	47.1	22.4	7.8	18.5	47.1	2.2	1.9	51.0	43.1
Hong Kong SAR	2011	575	71.5	10.0	5.3	12.5	71.5	0.7	0.0	67.8	75.3
	2015	597	76.8	9.3	5.2	8.1	76.8	0.5	0.2	73.1	80.4
Hungary	2011	745	59.2	21.4	5.9	12.9	59.2	0.4	0.1	59.2	59.3
	2015	688	67.6	17.1	4.4	10.1	67.6	0.8	0.0	66.0	69.1
Iran, Islamic Rep. of	2011	858	49.8	29.9	10.5	7.8	49.8	1.7	0.3	47.2	51.9
	2015	877	47.4	25.6	12.1	10.8	47.4	1.8	2.2	48.6	46.4
Israel	2011	681	59.7	24.7	6.8	7.0	59.7	0.9	0.9	58.9	60.6
	2015	793	61.2	18.1	8.8	7.4	61.2	2.2	2.2	63.3	59.0
Italy	2011	562	70.6	15.1	4.5	7.8	70.6	1.5	0.5	72.0	69.1
	2015	663	69.1	16.8	4.6	7.5	69.1	1.2	0.6	63.9	74.0
Japan	2011	615	63.2	24.0	5.0	7.6	63.2	0.2	0.0	59.4	67.2
	2015	669	66.0	20.5	3.6	9.2	66.0	0.4	0.3	65.0	67.0
Jordan	2011	1100	53.1	21.4	12.3	11.7	53.1	0.8	0.6	58.9	47.5
	2015	1125	50.5	19.9	15.7	10.9	50.5	2.0	1.0	54.3	46.7
Kazakhstan	2011	631	37.5	27.6	11.1	20.7	37.5	1.8	1.4	39.5	35.8
	2015	697	46.2	31.9	4.8	15.3	46.2	1.3	0.5	50.1	42.3
Korea, Rep. of	2011	736	79.2	11.1	3.4	5.9	79.2	0.1	0.1	76.4	82.2
	2015	751	74.4	11.7	5.2	8.3	74.4	0.5	0.0	73.9	74.8
Lebanon	2011	555	43.6	25.1	17.6	8.8	43.6	3.4	1.5	41.7	45.8
	2015	551	35.9	24.4	15.9	9.8	35.9	9.8	4.2	34.9	36.8
Lithuania	2011	685	68.0	14.8	9.5	7.4	68.0	0.1	0.3	69.3	66.6
	2015	620	69.0	14.9	6.3	9.2	69.0	0.5	0.1	68.3	69.7

DIFF = Percent correct

Because of missing gender information, some totals may appear inconsistent.

SL3_11A (S052112A): Earth Science / Applying Type: MC Key: D
Label: Planets: Shortest day length

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	47.6	21.5	8.8	19.1	47.6	1.0	2.1	47.7	47.4
	2015	1394	52.1	18.2	6.3	20.5	52.1	1.2	1.8	50.7	53.4
Morocco	2011	1294	37.9	23.4	20.7	14.4	37.9	2.2	1.3	40.0	36.1
	2015	1730	40.2	21.6	18.3	14.7	40.2	3.5	1.8	43.0	37.8
New Zealand	2011	762	66.1	15.6	4.6	10.6	66.1	2.2	0.9	64.4	67.5
	2015	1150	66.9	14.5	7.2	6.7	66.9	3.1	1.5	68.9	64.9
Oman	2011	1377	44.0	25.4	16.2	11.9	44.0	1.4	1.1	50.0	37.7
	2015	1260	45.5	24.0	15.0	12.3	45.5	1.9	1.3	48.0	43.2
Qatar	2011	640	54.9	17.9	15.1	9.8	54.9	1.8	0.6	62.7	47.2
	2015	769	56.7	18.6	8.9	12.3	56.7	2.5	1.1	57.2	56.2
Russian Federation	2011	707	60.5	18.5	6.9	10.7	60.5	2.8	0.5	58.3	62.5
	2015	685	67.2	14.7	6.4	8.4	67.2	3.0	0.2	68.6	65.8
Saudi Arabia	2011	618	56.8	21.1	10.5	11.1	56.8	0.3	0.1	57.0	56.6
	2015	542	52.8	21.8	11.9	10.7	52.8	2.6	0.2	57.0	48.4
Singapore	2011	855	77.5	11.8	4.4	5.6	77.5	0.3	0.5	76.2	78.8
	2015	873	74.1	13.4	4.4	7.8	74.1	0.3	0.1	71.9	76.1
Slovenia	2011	628	77.5	8.8	2.9	8.4	77.5	2.2	0.3	75.3	79.4
	2015	607	76.6	12.2	2.9	7.8	76.6	0.5	0.1	80.8	71.9
South Africa	2011	1694	51.7	23.0	12.5	9.5	51.7	1.1	2.2	56.0	47.5
	2015	1795	57.7	21.3	9.3	7.9	57.7	1.6	2.3	60.2	55.0
Sweden	2011	796	67.9	18.5	5.0	5.7	67.9	1.7	1.2	68.3	67.4
	2015	574	74.5	13.8	3.8	4.7	74.5	1.7	1.5	78.3	70.5
Thailand	2011	865	42.5	31.8	13.4	10.3	42.5	1.1	0.8	44.3	40.4
	2015	927	47.5	25.7	16.1	8.4	47.5	1.3	1.0	48.7	46.1
Turkey	2011	998	54.8	23.8	11.3	8.6	54.8	1.2	0.2	53.7	56.0
	2015	865	56.1	22.2	10.1	10.8	56.1	0.5	0.3	55.2	56.9
United Arab Emirates	2011	2024	55.8	20.4	9.9	11.9	55.8	0.8	1.1	57.9	53.7
	2015	2581	58.5	18.2	10.2	10.9	58.5	2.0	0.2	59.9	57.0
United States	2011	1499	73.3	14.0	3.5	7.3	73.3	1.1	0.8	73.3	73.2
	2015	1464	74.0	11.9	3.7	7.9	74.0	0.9	1.4	74.0	73.9

International Avg (n=33)	2011	28527	59.4	19.5	8.8	10.3	59.4	1.2	0.7	60.0	58.8
	2015	31051	60.7	18.3	8.1	10.0	60.7	1.8	1.1	61.7	59.6

Ontario, Canada	2011	675	70.4	14.5	4.6	8.9	70.4	0.8	0.9	69.7	71.1
	2015	631	65.5	15.2	5.7	10.7	65.5	0.5	2.4	64.8	66.2

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SI3_11A (S052112A): Earth Science / Applying Type: MC Key: D
Label: Planets: Shortest day length

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	880	71.9	13.9	5.2	6.3	71.9	1.8	1.0	71.7	72.1
	2015	560	69.9	12.5	7.2	9.2	69.9	0.5	0.8	65.2	74.5
Norway (8)	2011	560	67.7	20.1	6.3	5.1	67.7	0.5	0.4	67.3	67.9
	2015	667	69.6	14.8	6.0	7.2	69.6	2.2	0.2	69.2	69.9
Abu Dhabi, UAE	2011	632	54.5	22.1	9.7	11.5	54.5	1.4	0.9	53.2	55.6
	2015	693	55.7	18.4	13.2	10.7	55.7	1.8	0.3	60.2	51.0
Dubai, UAE	2011	799	63.6	17.4	7.9	9.0	63.6	1.0	1.2	65.2	62.0
	2015	869	68.6	14.6	6.0	9.2	68.6	1.3	0.3	68.1	69.1
Florida, US	2011	246	72.5	19.5	2.8	4.3	72.5	0.0	0.9	73.7	71.5
	2015	286	76.9	13.8	4.1	3.7	76.9	0.5	1.0	80.4	73.3

DIFF = Percent correct
Because of missing gender information, some totals may appear inconsistent.

SL3_11B (S052112B): Earth Science / Reasoning Type: CR 1 Point
Label: Planets: Distance from Sun

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
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Australia	2011	1058	27.7	47.3	24.5	0.4	27.7	28.7	26.8
	2015	1472	29.9	44.4	24.7	0.9	29.9	28.1	31.8
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Bahrain	2011	654	24.2	46.3	28.7	0.9	24.2	29.8	18.5
	2015	706	24.4	47.0	27.1	1.5	24.4	31.2	17.8
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Botswana	2011	772	11.0	72.7	15.2	1.0	11.0	13.6	8.3
	2015	844	12.3	64.5	19.2	3.9	12.3	11.8	12.9
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Chile	2011	819	21.6	41.1	36.2	1.0	21.6	19.9	23.5
	2015	695	24.5	36.0	37.6	1.9	24.5	22.1	26.6
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Chinese Taipei	2011	720	38.0	35.3	26.5	0.1	38.0	40.2	35.9
	2015	818	33.5	44.6	21.8	0.1	33.5	32.1	34.8
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England	2011	539	35.0	42.1	22.1	0.7	35.0	34.3	35.9
	2015	687	37.1	39.1	21.3	2.4	37.1	38.1	36.2
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Georgia	2011	652	16.1	25.1	57.2	1.5	16.1	16.3	15.9
	2015	582	19.2	36.3	42.2	2.3	19.2	16.9	21.6
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Hong Kong SAR	2011	575	20.4	60.4	19.3	0.0	20.4	22.7	17.9
	2015	597	30.6	54.8	14.4	0.2	30.6	27.7	33.5
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Hungary	2011	745	38.1	33.3	28.3	0.3	38.1	31.5	44.1
	2015	688	41.8	32.9	25.1	0.1	41.8	39.5	43.9
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Iran, Islamic Rep. of	2011	858	36.3	38.6	24.7	0.4	36.3	35.2	37.2
	2015	877	23.1	43.6	30.7	2.6	23.1	23.8	22.6
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Israel	2011	681	33.9	46.1	18.5	1.4	33.9	32.9	35.0
	2015	793	38.1	39.1	19.9	2.9	38.1	40.0	36.2
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Italy	2011	562	31.5	34.1	33.7	0.7	31.5	29.5	33.5
	2015	663	26.9	37.6	34.5	1.0	26.9	26.2	27.5
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Japan	2011	615	52.0	38.7	9.4	0.0	52.0	49.9	54.1
	2015	669	48.1	43.4	8.1	0.4	48.1	49.2	47.0
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Jordan	2011	1100	16.2	61.9	21.2	0.8	16.2	20.3	12.1
	2015	1125	15.9	62.8	20.1	1.1	15.9	19.4	12.4
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Kazakhstan	2011	630	22.8	31.5	44.1	1.6	22.8	23.3	22.4
	2015	698	18.9	52.0	27.9	1.2	18.9	19.0	18.8
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Korea, Rep. of	2011	736	60.2	30.2	9.3	0.3	60.2	57.6	62.9
	2015	751	69.4	25.4	5.2	0.0	69.4	71.5	67.5
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Lebanon	2011	560	13.7	45.8	38.9	1.5	13.7	14.4	13.0
	2015	552	14.4	39.9	40.7	5.0	14.4	16.0	12.8
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Lithuania	2011	685	29.9	45.8	23.9	0.4	29.9	29.8	30.0
	2015	620	40.8	39.8	19.0	0.4	40.8	44.3	37.4

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_11B (S052112B): Earth Science / Reasoning Type: CR 1 Point
Label: Planets: Distance from Sun

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Malaysia	2011	813	22.8	50.6	24.3	2.3	22.8	22.1	23.4
	2015	1394	32.3	51.1	14.5	2.1	32.3	36.1	28.6
Morocco	2011	1269	10.3	51.3	36.5	1.8	10.3	10.5	10.2
	2015	1730	11.0	53.2	33.3	2.5	11.0	12.3	9.9
New Zealand	2011	762	25.7	44.5	28.4	1.4	25.7	23.4	27.8
	2015	1150	31.0	42.2	23.0	3.7	31.0	30.6	31.5
Oman	2011	1377	13.8	61.2	23.7	1.2	13.8	20.8	6.5
	2015	1273	11.8	69.2	17.3	1.7	11.8	15.2	8.6
Qatar	2011	640	12.8	52.6	33.7	0.9	12.8	14.5	11.1
	2015	769	23.8	50.6	24.0	1.6	23.8	29.4	18.5
Russian Federation	2011	707	38.2	32.0	29.0	0.8	38.2	36.9	39.4
	2015	685	33.9	33.1	32.6	0.4	33.9	32.4	35.4
Saudi Arabia	2011	620	14.1	63.4	22.4	0.1	14.1	16.1	12.2
	2015	542	14.4	51.8	33.5	0.3	14.4	20.2	8.2
Singapore	2011	855	58.9	35.3	5.3	0.5	58.9	61.0	57.0
	2015	873	46.9	48.4	4.4	0.2	46.9	49.2	44.6
Slovenia	2011	628	39.4	39.3	20.4	0.8	39.4	41.3	37.8
	2015	607	42.7	43.5	13.7	0.1	42.7	46.3	38.7
South Africa	2011	1694	5.7	63.3	28.4	2.6	5.7	5.9	5.5
	2015	1795	5.9	71.6	19.2	3.4	5.9	5.8	6.0
Sweden	2011	796	37.4	33.4	27.9	1.4	37.4	35.7	39.0
	2015	574	41.3	37.1	19.8	1.8	41.3	46.6	35.8
Thailand	2011	865	8.2	46.1	44.6	1.0	8.2	7.8	8.7
	2015	927	9.4	52.1	36.9	1.6	9.4	8.7	10.2
Turkey	2011	998	21.4	50.9	27.2	0.5	21.4	22.4	20.4
	2015	865	39.4	39.3	20.9	0.3	39.4	42.4	36.7
United Arab Emirates	2011	2024	18.6	60.5	19.5	1.4	18.6	20.3	16.9
	2015	2580	24.8	54.9	19.8	0.5	24.8	26.5	23.0
United States	2011	1499	33.6	64.4	0.9	1.2	33.6	34.9	32.1
	2015	1464	24.9	67.7	5.6	1.7	24.9	25.6	24.4
International Avg (n=33)	2011	28508	27.0	46.2	25.9	0.9	27.0	27.4	26.5
	2015	31065	28.6	46.9	23.0	1.5	28.6	29.8	27.3
Ontario, Canada	2011	675	34.8	44.9	19.2	1.0	34.8	34.1	35.6
	2015	631	34.2	50.8	12.4	2.6	34.2	32.9	35.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SI3_11B (S052112B): Earth Science / Reasoning Type: CR 1 Point
Label: Planets: Distance from Sun

COUNTRY	Year	N	10 %	79 %	OMITTED %	NOT REACHED %	V1 %	GIRL PCT RIGHT	BOY PCT RIGHT
Quebec, Canada	2011	879	36.5	45.6	16.8	1.2	36.5	36.9	36.0
	2015	560	45.8	44.8	8.5	0.9	45.8	44.3	47.4
Norway (8)	2011	560	19.4	39.2	41.0	0.4	19.4	21.0	18.1
	2015	667	19.4	39.5	40.0	1.1	19.4	19.8	19.0
Abu Dhabi, UAE	2011	632	18.4	60.1	20.2	1.2	18.4	21.4	15.6
	2015	693	24.1	56.3	19.0	0.6	24.1	27.0	21.1
Dubai, UAE	2011	799	23.3	53.7	21.6	1.4	23.3	26.1	20.7
	2015	869	33.2	51.6	14.5	0.7	33.2	32.0	34.4
Florida, US	2011	246	27.8	71.0	0.3	0.9	27.8	25.9	29.5
	2015	286	21.9	68.4	8.3	1.4	21.9	26.2	17.6

V1 = Percent scoring 1 pt or better; V2 = Percent scoring 2 pts; Percent right for boys and girls corresponds to percent obtaining full credit.
Because of missing gender information, some totals may appear inconsistent.

SL3_12 (S052294): Earth Science / Knowing Type: MC Key: A
Label: Temperature outside an airplane

COUNTRY	Year	N	DIFF %	A %	B %	C %	D %	OMITTED %	NOT REACHED %	GIRL PCT RIGHT	BOY PCT RIGHT
Australia	2011	1058	72.6	72.6	14.2	8.4	2.5	1.4	0.9	70.4	74.8
	2015	1472	72.6	72.6	11.4	10.4	2.8	1.3	1.5	68.6	76.9
Bahrain	2011	654	49.0	49.0	19.2	23.2	6.2	0.5	2.0	54.9	43.3
	2015	706	47.8	47.8	16.9	27.1	5.9	0.5	1.8	50.1	45.6
Botswana	2011	771	20.0	20.0	37.2	35.4	5.2	0.4	1.8	23.1	16.8
	2015	842	23.2	23.2	34.7	29.4	5.5	1.8	5.4	23.7	22.8
Chile	2011	819	61.7	61.7	19.4	13.2	2.8	0.9	2.0	58.8	65.2
	2015	695	63.7	63.7	19.0	9.7	3.8	1.6	2.2	62.1	65.0
Chinese Taipei	2011	720	87.2	87.2	5.3	5.2	1.4	0.5	0.3	87.1	87.2
	2015	818	86.5	86.5	6.4	5.6	1.3	0.2	0.1	85.2	87.7
England	2011	539	73.2	73.2	12.1	8.8	3.4	0.8	1.6	68.0	79.2
	2015	687	69.5	69.5	14.4	9.2	3.2	1.2	2.5	64.8	74.5
Georgia	2011	652	40.4	40.4	19.8	25.7	11.3	0.7	2.1	39.7	41.1
	2015	582	48.0	48.0	16.7	23.8	7.6	0.8	3.0	45.0	51.2
Hong Kong SAR	2011	575	76.9	76.9	11.0	7.6	4.1	0.5	0.0	75.3	78.5
	2015	597	83.0	83.0	6.1	7.6	2.9	0.2	0.2	82.0	83.9
Hungary	2011	745	73.3	73.3	10.8	9.4	5.6	0.5	0.5	71.8	74.6
	2015	688	72.2	72.2	13.7	10.4	1.5	1.8	0.4	65.8	78.1
Iran, Islamic Rep. of	2011	859	57.6	57.6	18.0	12.7	10.6	0.6	0.5	62.1	53.8
	2015	877	48.5	48.5	20.1	18.0	8.8	1.0	3.7	47.2	49.6
Israel	2011	681	73.1	73.1	9.5	12.1	2.3	1.0	1.9	71.4	75.0
	2015	793	71.7	71.7	9.3	12.9	2.0	0.8	3.4	73.1	70.2
Italy	2011	562	77.8	77.8	11.9	5.3	2.4	1.0	1.6	77.0	78.6
	2015	663	73.4	73.4	13.6	7.9	2.5	0.9	1.7	76.2	70.8
Japan	2011	615	80.0	80.0	6.3	9.3	3.7	0.3	0.4	74.9	85.2
	2015	669	82.7	82.7	4.8	9.6	2.2	0.3	0.4	80.7	84.9
Jordan	2011	1100	47.4	47.4	16.7	27.0	6.7	1.3	1.0	46.7	48.1
	2015	1125	45.5	45.5	19.8	26.1	5.4	1.5	1.7	46.5	44.5
Kazakhstan	2011	631	64.4	64.4	10.6	12.9	8.9	0.6	2.7	66.0	62.9
	2015	698	62.2	62.2	12.9	15.4	7.0	0.9	1.6	60.2	64.1
Korea, Rep. of	2011	736	85.7	85.7	5.4	7.3	1.3	0.0	0.3	83.9	87.6
	2015	751	86.3	86.3	4.5	7.6	1.4	0.2	0.0	84.3	88.1
Lebanon	2011	550	31.8	31.8	24.9	27.3	10.8	2.4	2.9	29.5	34.5
	2015	543	25.8	25.8	25.6	26.1	10.0	5.9	6.7	25.8	25.8
Lithuania	2011	685	66.7	66.7	11.0	14.4	3.2	2.8	1.9	69.2	64.0
	2015	620	72.4	72.4	7.7	15.1	2.8	1.5	0.6	72.4	72.4

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Malaysia	2011	813	26.4	26.4	31.6	30.0	8.7	0.2	3.0	24.0	28.9
	2015	1394	29.3	29.3	26.2	32.2	8.9	0.9	2.4	27.2	31.4
Morocco	2011	1278	39.3	39.3	23.6	27.4	6.0	1.1	2.7	42.4	36.5
	2015	1730	41.3	41.3	24.8	23.7	4.4	2.3	3.5	43.9	39.2
New Zealand	2011	762	65.2	65.2	16.7	11.5	2.9	1.7	2.0	59.9	69.9
	2015	1150	65.2	65.2	15.0	11.1	3.6	1.0	4.1	62.5	68.1
Oman	2011	1377	45.8	45.8	15.7	29.6	6.1	1.3	1.6	50.2	41.1
	2015	1273	54.4	54.4	11.7	26.8	4.5	0.6	2.0	56.3	52.6
Qatar	2011	640	45.6	45.6	23.5	23.4	5.9	0.1	1.5	45.0	46.2
	2015	769	55.3	55.3	15.2	22.7	4.4	0.6	1.8	57.1	53.7
Russian Federation	2011	707	85.5	85.5	4.8	5.8	1.7	1.0	1.2	83.8	87.0
	2015	685	86.5	86.5	3.5	5.7	1.9	1.4	1.0	86.8	86.2
Saudi Arabia	2011	616	55.1	55.1	17.4	24.1	2.9	0.4	0.1	54.8	55.5
	2015	542	42.4	42.4	20.3	29.5	5.9	1.4	0.6	41.1	43.7
Singapore	2011	855	64.5	64.5	13.2	16.5	5.3	0.0	0.5	59.2	69.7
	2015	873	72.7	72.7	7.5	12.7	6.9	0.0	0.2	69.3	76.0
Slovenia	2011	628	81.2	81.2	7.1	5.8	2.3	2.0	1.6	79.4	82.7
	2015	607	80.1	80.1	7.4	5.6	3.5	2.4	0.9	79.6	80.7
South Africa	2011	1694	17.6	17.6	24.9	36.8	16.4	0.7	3.5	15.2	20.0
	2015	1795	20.9	20.9	26.0	37.3	10.7	0.9	4.1	20.3	21.6
Sweden	2011	796	79.0	79.0	8.3	7.4	2.1	1.4	1.7	78.7	79.3
	2015	574	78.8	78.8	7.7	8.6	1.4	1.1	2.4	76.2	81.6
Thailand	2011	865	57.4	57.4	12.4	23.9	3.9	1.1	1.3	59.8	54.6
	2015	927	56.1	56.1	11.5	25.2	5.2	0.1	2.0	59.5	52.4
Turkey	2011	998	59.0	59.0	18.7	16.1	5.1	0.4	0.7	59.5	58.5
	2015	865	59.9	59.9	16.1	16.8	6.8	0.2	0.3	60.9	59.0
United Arab Emirates	2011	2024	53.6	53.6	17.2	22.9	3.9	0.8	1.7	54.1	53.0
	2015	2581	57.6	57.6	13.2	21.4	5.8	1.3	0.6	58.6	56.6
United States	2011	1499	73.2	73.2	10.9	10.2	3.6	0.8	1.3	71.8	74.8
	2015	1464	75.0	75.0	8.6	9.7	3.4	1.4	1.9	74.2	76.2

International Avg (n=33)	2011	28504	60.2	60.2	15.4	16.9	5.1	0.9	1.5	59.6	60.9
	2015	31055	60.9	60.9	14.3	17.0	4.7	1.1	2.0	60.2	61.7

Ontario, Canada	2011	675	76.9	76.9	10.6	7.9	2.2	1.1	1.3	75.7	78.3
	2015	630	71.5	71.5	14.2	7.9	2.8	0.2	3.4	68.9	74.3

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Quebec, Canada	2011	880	85.7	85.7	7.0	3.4	0.7	1.7	1.4	86.0	85.3
	2015	557	85.9	85.9	5.3	6.3	1.5	0.1	0.9	86.2	85.7
Norway (8)	2011	560	80.1	80.1	13.1	2.3	2.1	1.4	1.0	81.8	78.7
	2015	667	80.2	80.2	11.7	2.9	0.7	2.2	2.4	77.4	82.9
Abu Dhabi, UAE	2011	632	53.5	53.5	19.3	21.5	3.3	0.8	1.6	53.9	53.1
	2015	693	55.7	55.7	12.0	24.4	6.3	1.0	0.6	58.6	52.7
Dubai, UAE	2011	799	56.3	56.3	16.5	20.8	3.3	1.1	2.0	55.5	57.1
	2015	869	67.5	67.5	9.3	17.8	4.1	0.5	0.9	65.6	69.4
Florida, US	2011	246	79.6	79.6	13.4	3.9	1.9	0.3	0.9	76.6	82.4
	2015	286	69.1	69.1	9.1	12.7	5.4	1.8	1.8	65.4	72.8

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