

# TIMSS 2011 Field Test of Mathematics and Science Items

The TIMSS 2011 field test was conducted in March–April 2010. The following exhibits provide a detailed summary of the field test effort, including the number of students, teachers, and schools that participated, and the number of items listed by format, content domain, and cognitive domain. Approximately 10,000 student responses from more than 40 countries per grade were used to evaluate the measurement properties of each field test assessment item. Most of the countries that participated in the fourth grade field test were also field-testing PIRLS items as part of the TIMSS-PIRLS 2011 joint initiative, allowing them the opportunity to practice the operational strategies needed to administer both assessments to the same students.

## Overview of TIMSS 2011 Field Test

	Fourth Grade	Eighth Grade
<b>Items</b>		
Mathematics	143	178
Science	139	176
<b>Total</b>	<b>282</b>	<b>354</b>
Responses per Item (approx.)	10,000	10,000
<b>Participants</b>		
Countries	48	44
Benchmarking Entities	5	5
Students	63,901	60,376
Teachers	2,924	6,826
Schools	1,761	1,340

#### Fourth Grade TIMSS 2011 Number of Field Test Items by Content Domain and Item Format

Content Domain	Number of Multiple-choice Items	Number of Constructed-response Items		Total Number of Items	Total Number of Score Points	Percentage of Score Points
		1 Point	2 Points			
<b>Mathematics Items</b>						
Number	35	33	3	71	74	49%
Geometric Shapes and Measures	32	16	2	50	52	35%
Data Display	10	10	2	22	24	16%
<b>Total</b>	<b>77</b>	<b>59</b>	<b>7</b>	<b>143</b>	<b>150</b>	
<b>Science Items</b>						
Life Science	26	27	10	63	73	49%
Physical Science	27	21	0	48	48	32%
Earth Science	19	9	0	28	28	19%
<b>Total</b>	<b>72</b>	<b>57</b>	<b>10</b>	<b>139</b>	<b>149</b>	

#### Fourth Grade TIMSS 2011 Number of Field Test Items by Cognitive Domain and Item Format

Cognitive Domain	Number of Multiple-choice Items	Number of Constructed-response Items		Total Number of Items	Total Number of Score Points	Percentage of Score Points
		1 Point	2 Points			
<b>Mathematics Items</b>						
Knowing	37	19	3	59	62	41%
Applying	23	26	3	52	55	37%
Reasoning	17	14	1	32	33	22%
<b>Total</b>	<b>77</b>	<b>59</b>	<b>7</b>	<b>143</b>	<b>150</b>	
<b>Science Items</b>						
Knowing	31	17	5	53	58	39%
Applying	31	26	3	60	63	42%
Reasoning	10	14	2	26	28	19%
<b>Total</b>	<b>72</b>	<b>57</b>	<b>10</b>	<b>139</b>	<b>149</b>	

### Eighth Grade TIMSS 2011 Number of Field Test Items by Content Domain and Item Format

Content Domain	Number of Multiple-choice Items	Number of Constructed-response Items		Total Number of Items	Total Number of Score Points	Percentage of Score Points
		1 Point	2 Points			
<b>Mathematics Items</b>						
Number	32	26	2	60	62	33%
Algebra	23	18	6	47	53	28%
Geometry	14	20	1	35	36	19%
Data and Chance	19	15	2	36	38	20%
<b>Total</b>	<b>88</b>	<b>79</b>	<b>11</b>	<b>178</b>	<b>189</b>	
<b>Science Items</b>						
Biology	29	27	7	63	70	36%
Chemistry	18	13	4	35	39	20%
Physics	25	16	2	43	45	23%
Earth Science	18	13	4	35	39	20%
<b>Total</b>	<b>90</b>	<b>69</b>	<b>17</b>	<b>176</b>	<b>193</b>	

Because results are rounded to the nearest whole number, some totals may appear inconsistent.

### Eighth Grade TIMSS 2011 Number of Field Test Items by Cognitive Domain and Item Format

Cognitive Domain	Number of Multiple-choice Items	Number of Constructed-response Items		Total Number of Items	Total Number of Score Points	Percentage of Score Points
		1 Point	2 Points			
<b>Mathematics Items</b>						
Knowing	43	12	1	56	57	30%
Applying	33	40	7	80	87	46%
Reasoning	12	27	3	42	45	24%
<b>Total</b>	<b>88</b>	<b>79</b>	<b>11</b>	<b>178</b>	<b>189</b>	
<b>Science Items</b>						
Knowing	43	10	3	56	59	31%
Applying	38	26	7	71	78	40%
Reasoning	9	33	7	49	56	29%
<b>Total</b>	<b>90</b>	<b>69</b>	<b>17</b>	<b>176</b>	<b>193</b>	