TIMSS 2015
Curriculum Questionnaire—Eighth Grade
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TIMSS 2015
Curriculum Questionnaire

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade

The TIMSS 2015 Curriculum Questionnaire is designed to collect basic information about the structure of the education system as well as the organization, content, and implementation of the mathematics and/or science curriculum in each country.

The questionnaire should be completed by the National Research Coordinators, drawing on the expertise of curriculum specialists and educators. Please submit this questionnaire no later than August 31, 2015.

To begin the questionnaire, please click on the “Next” button. When navigating through the questionnaire, make sure to confirm your responses by clicking on the “Next” or “Previous” button. To go to a particular section or item, please click on the corresponding link in the “Table of Contents.”

Please note that the General Module is the same across the fourth and eighth grades, and therefore National Research Coordinators of countries participating in TIMSS 2015 at both the fourth and eighth grade are advised to complete the General Module at only one of the grade levels. The Mathematics and Science Modules should be completed at both grade levels.

If you have any questions about the content of this questionnaire, please contact the TIMSS & PIRLS International Study Center at Boston College: timss@bostoncollege.edu

If you have any technical questions on how to complete this questionnaire, please contact the IEA Data Processing & Research Center (DPC): timss@iea-dpc.de
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - GENERAL MODULE

GENERAL MODULE

To be completed by all countries participating in TIMSS

Please note: If you already have completed the General Module of the Grade 4 Curriculum Questionnaire, please skip the General Module using the Table of Contents.
Grade 8

CURRICULUM QUESTIONNAIRE
G2. A. In your country, what is the stated official policy or regulation on students’ age of entry to primary school (ISCED Level 1)?
Examples: “Children begin school during the calendar year of their 6th birthday”; “Children must be 6 years old by the end of June to begin school the following September.”

B. If the official policy allows some parental discretion or choice, please describe the usual practice.
Example: “Even though the official policy is that students can begin school in the year when they turn 6 years old, children typically begin primary school at age 7 because their parents feel they will benefit from being more mature.”
G3. A. Has the stated official policy changed in the last 10 years?
Check one circle only.

☐ Yes
☐ No

If Yes....
B. How did the policy change, and when was the change made?

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G4. What are the ages and/or grades of compulsory education in your country?

Example: "Ages 6-16; Grades 1-9."

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G5. Beginning with ISCED Level 1, what grades of schooling are provided to students through ISCED Level 3 (upper secondary)?

Example: “Grades 1-12.”
G6. Does your country have a policy on the promotion and retention of students across grades 1-8?

Example: "Automatic promotion for grades 1-5, dependent on academic progress for grades 6-8."

Check one circle only:

- Yes
- No

Please describe:
G7. Does your country have a nationally mandated number of school days per year?

Check one circle only.
- Yes
- No

Please describe:
Early Childhood Education

Early childhood education (ISCED Level 0) is subdivided into:
- Early childhood educational development (ECED) programs for children under 3; and
- Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.

G8. Does your country provide universal ECED or PPE coverage?

Programs with universal coverage are accessible and available to all children, although in some cases parents may choose not to enroll their children.

Check one circle for each line.

| a) ECED programs for children under 3 | Yes | No |
| b) PPE programs for children age 3 or older | | |

B. How many years can children attend these programs altogether?

Check one circle only:

- 1 year
- 2 years
- 3 years
- 4 or more years

Comments:

C. Does your country provide targeted ECED or PPE coverage?

Programs with targeted coverage are only available for certain subgroups (e.g., for children from low-income families, for children where the language spoken at home is different from the national language).

Check one circle only:

- Yes
- No

Please describe:

Comments:
G9. A. Does your country have national curriculum guidance documents for early childhood education?

Check one circle only.

- Yes
- No

If Yes....

B. Do the curriculum guidance documents cover any of the following topic areas?

Check one circle for ECED programs, AND one circle for PPE programs.

<table>
<thead>
<tr>
<th>ECED programs</th>
<th>PPE programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Socio-emotional development</td>
<td>Yes</td>
</tr>
<tr>
<td>b) Physical development and health education</td>
<td>No</td>
</tr>
<tr>
<td>c) Oral language development and communication skills</td>
<td>No</td>
</tr>
<tr>
<td>d) Reading and literacy skills</td>
<td>No</td>
</tr>
<tr>
<td>e) Mathematics and numeracy skills</td>
<td>No</td>
</tr>
<tr>
<td>f) Science including understanding the natural world (e.g., weather)</td>
<td>No</td>
</tr>
<tr>
<td>g) Other</td>
<td></td>
</tr>
</tbody>
</table>

Please specify below:

Comments:
G10. A. Does an educational authority in your country (e.g., National Ministry of Education) administer examinations that have consequences for individual students, such as entry to a higher school system, entry to a university, and/or exiting or graduating from secondary school?

Check one circle only.

☐ Yes
☐ No

If Yes....
B. Please describe the grades at which the exams are given, the subjects that are assessed, and the purpose of each exam.

Example: "There is an exam including language and mathematics given at the end of grade 8 to determine placement for entry to secondary school."
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Examinations

G11. A. Does your country have a policy on using student achievement to assign students to classes (e.g., streaming, tracking, setting)?

Check one circle only.

☐ Yes
☐ No

If Yes....
B. Please describe. Include whether this policy is used to assign students to mathematics and science classes and at what grade level assignment takes place.
Teacher Preparation

G12. A. What is the main preparation route(s) for teachers of students in the fourth grade?

Example: “Most teachers receive their education through a university degree program. Some have attended a teacher college program, but that is becoming less common.”

B. According to the main teacher preparation route, what are the current requirements for being a teacher of students in the fourth grade?

Check one circle for each line.

- Supervised practicum during the teacher education program.
  - If Yes, how long is this period?
- Passing a qualifying examination (e.g., licensing, certification).
  - If Yes, how long is this period?
- Completion of a probationary teaching period.
  - If Yes, how long is this period?
- Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).
  - Other: Please specify below.

C. Has the stated official policy for fourth grade teachers changed in the last 10 years?

Check one circle only.

- Yes
- No

If Yes,....

D. How did the policy change, and when was the change made?
G13. A. Is the main preparation route(s) for teachers of students in the eighth grade different from the main preparation route(s) at the fourth grade?
Check one circle only:
- Yes
- No

If Yes....
B. If the main preparation route(s) for teachers of students in the eighth grade is different, what is their main preparation route?

C. If the requirements are different than the fourth grade, what are the current requirements for being a teacher of students in the eighth grade?
Check one circle for each line.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Supervised practicum during the teacher education program.</td>
<td></td>
</tr>
<tr>
<td>If Yes...</td>
<td></td>
</tr>
<tr>
<td>How long is this period?</td>
<td></td>
</tr>
<tr>
<td>b) Passing a qualifying examination (e.g., licensing, certification).</td>
<td></td>
</tr>
<tr>
<td>c) Completion of a probationary teaching period.</td>
<td></td>
</tr>
<tr>
<td>If Yes...</td>
<td></td>
</tr>
<tr>
<td>How long is this period?</td>
<td></td>
</tr>
<tr>
<td>d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).</td>
<td></td>
</tr>
<tr>
<td>e) Other</td>
<td></td>
</tr>
<tr>
<td>Please specify below:</td>
<td></td>
</tr>
</tbody>
</table>

D. Has the stated official policy changed for eighth grade teachers in the last 10 years?
Check one circle only:
- Yes
- No

If Yes....
E. How did the policy change, and when was the change made?
Principal Preparation

G14. A. What is the main preparation route(s) for principals of schools with fourth grade students?

Example: "In addition to receiving their teaching qualifications, most principals have a degree in educational leadership."

B. According to the main principal preparation route, what are the current requirements for being a principal of a school with fourth grade students?

Check one circle for each line.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other:
Please specify below:

C. Has the stated official policy changed in the last 10 years for principals of schools with fourth grade students?

Check one circle only.

Yes
No

If Yes:

D. How did the policy change, and when was the change made?
G15. A. Is the main preparation route(s) for principals of schools with eighth grade students different from the main preparation route(s) for principals of schools with fourth grade students?

Check one circle only:
- Yes
- No

If Yes....
B. If the main preparation route(s) for principals of schools with eighth grade students is different, what is their main preparation route?

Example: “In addition to receiving their teaching qualifications, most principals have a degree in educational leadership.”

C. According to the main principal preparation route, what are the current requirements for being a principal of a school with eighth grade students?

Check one circle for each line

- a) Teaching experience
- b) Completion of a specialized school leadership training program (including a school leadership degree program)
- c) Other Please specify below:

D. Has the stated official policy changed in the last 10 years for principals of schools with eighth grade students?

Check one circle only:
- Yes
- No

If Yes....
E. How did the policy change, and when was the change made?
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - MATHEMATICS MODULE - GRADE 8

MATHEMATICS MODULE - GRADE 8

To be completed by all countries participating in TIMSS at the eighth grade

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.
About the Eighth Grade Mathematics Curriculum

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M1. Does your country have a national curriculum that covers mathematics instruction at the eighth grade of formal schooling?

Check one circle only.

- Yes
- No

If Yes...

Comments:

If No...

What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers mathematics instruction at the eighth grade of formal schooling?

Comments:
TIMSS 2015 - English
You are logged in as: 9911 Log out

TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Mathematics Curriculum

M2. A. In what year was the 2014/2015 mathematics curriculum introduced?

Comments:

B. Is the mathematics curriculum currently being revised?

Check one circle only:

- Yes
- No

If Yes...
Please explain:

If No...
Comments:
M3. For the middle/upper secondary school mathematics curriculum, what is the grade structure?
Examples: “Grades 1-6”, “Grades 4-8”, “Grades 6-8”, “Grades 7-9”.

Comments:
TIMSS 2015 - English
You are logged in as: 9911  Logout

TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Curriculum Specifications

**Curriculum Specifications**
This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curriculum.

**M4. What does the mathematics curriculum prescribe?**

Check one circle for each line.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Goals and objectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Instructional processes or methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Materials (e.g., textbooks, instructional materials)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Assessment methods/activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please specify below:

Comments:

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M5. Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to mathematics instruction at the eighth grade of formal schooling?

Check one circle only:

- Yes
- No

If Yes...
Please specify the percentage:

Comments:
**M6. How is the mathematics curriculum implementation evaluated?**

<table>
<thead>
<tr>
<th>Check one circle for each line.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Visits by inspectors</td>
<td>![ ]</td>
</tr>
<tr>
<td>b) Research programs</td>
<td>![ ]</td>
</tr>
<tr>
<td>c) School self-evaluation</td>
<td>![ ]</td>
</tr>
<tr>
<td>d) National or regional exams</td>
<td>![ ]</td>
</tr>
<tr>
<td>e) Other</td>
<td>![ ]</td>
</tr>
<tr>
<td>Please specify below:</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
</table>

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Instructional Materials and Use of Technology

[Box: Instructional Materials and Use of Technology]

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

M7. A. Is there a process for approving the mathematics instructional materials?

Check one circle only:
- Yes
- No

If Yes…
Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process:

[Blank space for description]

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 8 mathematics instruction?

Check one circle only:
- Yes
- No

If Yes…
What are the statements/policies?

[Blank space for description]

(Continued on Next Page)
TIMSS 2015 - English (Continued)

TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Instructional Materials and Use of Technology

C. Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 8 mathematics tests or examinations?

Check one circle only:

- [ ] Yes
- [ ] No

If Yes...
What are the statements/policies?

Comments:

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# Eighth Grade Mathematics Topics Covered

This mathematics module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarise for your state or provincial curriculum.

**MB. (i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?**

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

**MB. (ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?**

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply (e.g., fractions in part A topic (c)), please explain in the comment field.

<table>
<thead>
<tr>
<th>(i) Proportion of grade 8 students expected to be taught topic</th>
<th>(ii) Grade(s) topic is expected to be taught: preprimary (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Table" /></td>
<td><img src="image" alt="Table" /></td>
</tr>
</tbody>
</table>

**Comments:**

![Comment box image]
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

MB. (continued)
(i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply (e.g., fractions in part A topic 6), please explain in the comments field.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Grade(s) expected to be taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simplifying and evaluating algebraic expressions</td>
<td>G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>Simple linear equations and inequalities</td>
<td></td>
</tr>
<tr>
<td>Simultaneous (two variables) equations</td>
<td></td>
</tr>
<tr>
<td>Numeric, algebraic, and geometric patterns or sequences</td>
<td></td>
</tr>
<tr>
<td>Representation of functions as ordered pairs, tables, graphs, words, or equations</td>
<td></td>
</tr>
<tr>
<td>Properties of functions (slopes, intercepts, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

Comments:
TIMSS 2015 Curriculum Questionnaire – Eighth Grade

M8. (continued)
(i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are no specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., fractions in part A topic (c)], please explain in the comment field.

<table>
<thead>
<tr>
<th>C. Geometry</th>
<th>(i) Proportion of grade 8 students expected to be taught topic</th>
<th>(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons)</td>
<td>![Check boxes for all or almost all students] ![Check boxes for only the more able students] ![Check boxes for not included in the curriculum through grade 8]</td>
<td>![Check boxes for PP] ![Check boxes for G1] ![Check boxes for G2] ![Check boxes for G3] ![Check boxes for G4] ![Check boxes for G5] ![Check boxes for G6] ![Check boxes for G7] ![Check boxes for G8] ![Check boxes for G9] ![Check boxes for G10] ![Check boxes for G11] ![Check boxes for G12]</td>
</tr>
<tr>
<td>b) Congruent figures and similar triangles</td>
<td>![Check boxes for all or almost all students] ![Check boxes for only the more able students] ![Check boxes for not included in the curriculum through grade 8]</td>
<td>![Check boxes for PP] ![Check boxes for G1] ![Check boxes for G2] ![Check boxes for G3] ![Check boxes for G4] ![Check boxes for G5] ![Check boxes for G6] ![Check boxes for G7] ![Check boxes for G8] ![Check boxes for G9] ![Check boxes for G10] ![Check boxes for G11] ![Check boxes for G12]</td>
</tr>
<tr>
<td>c) Relationship between three-dimensional shapes and their two-dimensional representations</td>
<td>![Check boxes for all or almost all students] ![Check boxes for only the more able students] ![Check boxes for not included in the curriculum through grade 8]</td>
<td>![Check boxes for PP] ![Check boxes for G1] ![Check boxes for G2] ![Check boxes for G3] ![Check boxes for G4] ![Check boxes for G5] ![Check boxes for G6] ![Check boxes for G7] ![Check boxes for G8] ![Check boxes for G9] ![Check boxes for G10] ![Check boxes for G11] ![Check boxes for G12]</td>
</tr>
<tr>
<td>d) Using appropriate measurement formulas for perimeter, circumference, areas, surface areas, and volumes</td>
<td>![Check boxes for all or almost all students] ![Check boxes for only the more able students] ![Check boxes for not included in the curriculum through grade 8]</td>
<td>![Check boxes for PP] ![Check boxes for G1] ![Check boxes for G2] ![Check boxes for G3] ![Check boxes for G4] ![Check boxes for G5] ![Check boxes for G6] ![Check boxes for G7] ![Check boxes for G8] ![Check boxes for G9] ![Check boxes for G10] ![Check boxes for G11] ![Check boxes for G12]</td>
</tr>
<tr>
<td>e) Points on the Cartesian plane</td>
<td>![Check boxes for all or almost all students] ![Check boxes for only the more able students] ![Check boxes for not included in the curriculum through grade 8]</td>
<td>![Check boxes for PP] ![Check boxes for G1] ![Check boxes for G2] ![Check boxes for G3] ![Check boxes for G4] ![Check boxes for G5] ![Check boxes for G6] ![Check boxes for G7] ![Check boxes for G8] ![Check boxes for G9] ![Check boxes for G10] ![Check boxes for G11] ![Check boxes for G12]</td>
</tr>
<tr>
<td>f) Translation, reflection, and rotation</td>
<td>![Check boxes for all or almost all students] ![Check boxes for only the more able students] ![Check boxes for not included in the curriculum through grade 8]</td>
<td>![Check boxes for PP] ![Check boxes for G1] ![Check boxes for G2] ![Check boxes for G3] ![Check boxes for G4] ![Check boxes for G5] ![Check boxes for G6] ![Check boxes for G7] ![Check boxes for G8] ![Check boxes for G9] ![Check boxes for G10] ![Check boxes for G11] ![Check boxes for G12]</td>
</tr>
</tbody>
</table>

Comments:
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Mathematics Topics Covered

MB. (continued)
(i) According to the national mathematics curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., fractions in part A topic (c)], please explain in the comment field.

<table>
<thead>
<tr>
<th>D. Data and Chance</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Characteristics of data sets (mean, median, mode, and shape of distributions)</td>
</tr>
<tr>
<td>b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points)</td>
</tr>
<tr>
<td>c) Judging, predicting, and determining the chances of possible outcomes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(i) Proportion of grade 8 students expected to be taught topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check one circle for each line. Not included in the curriculum through grade 8</td>
</tr>
<tr>
<td>All or almost all students</td>
</tr>
<tr>
<td>Only the more able students</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check the corresponding grade(s) for each topic.</td>
</tr>
<tr>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
</tbody>
</table>

Comments:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - SCIENCE MODULE - GRADE 8

SCIENCE MODULE - GRADE 8

To be completed by all countries participating in TIMSS at the eighth grade

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

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About the Eighth Grade Science Curriculum

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S1. Does your country have a national curriculum that covers science instruction at the eighth grade of formal schooling?

Check one circle only.

- Yes
- No

If Yes…
Comments:

If No…
What is the highest level of decision-making authority (e.g., state or province) that provides a curriculum that covers science instruction at the eighth grade of formal schooling?
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - About the Eighth Grade Science Curriculum

S2. A. In what year was the 2014/2015 science curriculum introduced?

Comments:

B. Is the science curriculum currently being revised?

Check one circle only.

☐ Yes
☐ No

If Yes...
Please explain:

Comments:

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S3. For the middle/lower secondary school science curriculum, what is the grade structure?

Examples: "Grades 1-8", "Grades 4-8", "Grades 6-8", "Grades 7-9."

Comments:
### Curriculum Specifications

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

**S4. What does the science curriculum prescribe?**

Check one circle for each line.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Goals and objectives</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b) Instructional processes or methods</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>c) Materials (e.g., textbooks, instructional materials)</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>d) Assessment methods/activities</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>e) Other</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

Please specify below:

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**Comments:**

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Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the eighth grade of formal schooling?

Check one circle only:

- Yes
- No

If Yes...
Please specify the percentage:

Comments:
**S6. How is the science curriculum implementation evaluated?**

Check one circle for each line.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Visits by inspectors</td>
<td></td>
</tr>
<tr>
<td>b) Research programs</td>
<td></td>
</tr>
<tr>
<td>c) School self-evaluation</td>
<td></td>
</tr>
<tr>
<td>d) National or regional examinations</td>
<td></td>
</tr>
<tr>
<td>e) Other&lt;br&gt;    Please specify below.</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Instructional Materials and Use of Technology

Instructional Materials and Use of Technology

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

S7. A. Is there a process for approving the science instructional materials?

Check one circle only:

- Yes
- No

If Yes…
Please describe the process, and what materials (e.g., textbooks, workbooks, online materials) must be approved through this process:

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 8 science instruction?

Check one circle only:

- Yes
- No

If Yes…
What are the statements/policies?
### Eighth Grade Science Topics Covered

This science module refers to the national curriculum that was in effect for the eighth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the eighth grade of formal schooling for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.

**S8. (i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?**

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 9.

**S8. (ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?**

If there are no specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply (e.g., energy flow in part A topic (i)), please explain in the comment field.

<table>
<thead>
<tr>
<th>(i) Proportion of grade 8 students expected to be taught topic</th>
<th>(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check one circle for each line.</td>
<td>Check the corresponding grade(s) for each topic</td>
</tr>
<tr>
<td>All or almost all students</td>
<td>PP  G1  G2  G3  G4  G5  G6  G7  G8  G9  G10  G11  G12</td>
</tr>
<tr>
<td>Only the more able students</td>
<td></td>
</tr>
<tr>
<td>Not included in the curriculum through grade 8</td>
<td></td>
</tr>
</tbody>
</table>

A. **Biology**

- a) Differences among major taxonomic groups of organisms (plants, animals, fungi, mammals, birds, reptiles, fish, amphibians)
- b) Major organs and organ systems in humans and other organisms (structure/function, life processes that maintain stable bodily conditions)
- c) Cells, their structure and functions, including respiration and photosynthesis as cellular processes
- d) Life cycles, sexual reproduction, and heredity (passing on of traits, inherited versus acquired/learned characteristics)
- e) Role of variation and adaptation in survival/extinction of species in a changing environment (including fossil evidence for changes in life on Earth over time)
- f) Interdependence of populations of organisms in an ecosystem (e.g., energy flow, food webs, competition, predation) and factors affecting population size in an ecosystem
- g) Human health (causes of infectious diseases, methods of infection, prevention, immunity) and the importance of diet and exercise in maintaining health

(Continued on Next Page)
TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Science Topics Covered

Comments:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Science Topics Covered

S8. (continued)
(i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply (e.g., energy flow in part A topic (i)), please explain in the comment field.

<table>
<thead>
<tr>
<th>B. Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Classification, composition, and particulate structure of matter (elements, compounds, mixtures, molecules, atoms, protons, neutrons, electrons)</td>
</tr>
<tr>
<td>b) Physical and chemical properties of matter</td>
</tr>
<tr>
<td>c) Mixtures and solutions (solvent, solute, concentration/dilution, effect of temperature on solubility)</td>
</tr>
<tr>
<td>d) Properties and uses of common acids and bases</td>
</tr>
<tr>
<td>e) Chemical change (transformation of reactants, evidence of chemical change, conservation of matter, common oxidation reactions – combustion, rusting, tarnishing)</td>
</tr>
<tr>
<td>f) The role of electrons in chemical bonds</td>
</tr>
</tbody>
</table>

(i) Proportion of grade 8 students expected to be taught topic

Check one circle for each line.

<table>
<thead>
<tr>
<th>All or almost all students</th>
<th>Only the more able students</th>
<th>Not included in the curriculum through grade 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP</td>
<td>G1</td>
<td>G2</td>
</tr>
</tbody>
</table>

(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)

Check the corresponding grade(s) for each topic.

Comments:

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TIMSS 2015 Curriculum Questionnaire – Eighth Grade - Eighth Grade Science Topics Covered

S8. (continued)
(i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., energy flow in part A topic (i)], please explain in the comment field.

<table>
<thead>
<tr>
<th>C. Physics</th>
<th>(i) Proportion of grade 8 students expected to be taught topic</th>
<th>(ii) Grade(s) topic is expected to be taught</th>
<th>[Check one circle for each line. Not included in the curriculum through grade 8]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Physical states and changes in matter (exploration of properties in terms of movement and distance between particles; phase change, thermal expansion, and changes in volume and/or pressure)</td>
<td>All or almost all students</td>
<td>Only the more able students</td>
<td>PP G1 \ G2 \ G3 \ G4 \ G5 \ G6 \ G7 \ G8 \ G9 \ G10 \ G11 \ G12</td>
</tr>
<tr>
<td>b) Energy forms, transformations, heat, and temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Basic properties/behaviors of light (reflection, refraction, light and color, simple ray diagrams) and sound (transmission through media, loudness, pitch, amplitude, frequency)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Electric circuits (flow of current; types of circuits - parallel/series) and properties and uses of permanent magnets and electromagnets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Forces and motion (types of forces, basic description of motion: effects of density and pressure)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
S8. (continued)
(i) According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

Be sure to include curriculum expectations for all grades up to and including grade 8. Grades represent years of formal schooling. For example, if “Year 9” in your country corresponds to the eighth year of formal schooling, please choose grade 8.

(ii) Across grades from preprimary through upper secondary education, at what grade(s) are the topics primarily intended to be taught?

If there are not any specifications to this detail, please indicate national expectations to the best of your ability. If part of a topic does not apply [e.g., energy flow in part A topic (ii)], please explain in the comment field.

<table>
<thead>
<tr>
<th>D. Earth Science</th>
<th>(i) Proportion of grade 8 students expected to be taught topic</th>
<th>(ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Check one circle for each line.</td>
<td>Check the corresponding grade(s) for each topic</td>
</tr>
<tr>
<td></td>
<td>All or almost all students</td>
<td>PP</td>
</tr>
<tr>
<td>a) Earth’s structure and physical features (Earth’s crust, mantle, and core: composition and relative distribution of water, and composition of air)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Earth’s processes, cycles, and history (rock cycle; water cycle; weather versus climate; major geological events; formation of fossils and fossil fuels)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Earth’s resources, their use and conservation (e.g., renewable nonrenewable resources, human use of land/soil, water resources)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Earth in the solar system and the universe (phenomena on Earth - day/night, tides, phases of moon, eclipses, seasons; physical features of Earth compared to other bodies)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:
TIMSS 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Eighth Grade

This completes the Curriculum Questionnaire - Grade 8 Module.
To submit your completed questionnaire, please click the Finish button.

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