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TIMSS 2015
Curriculum Questionnaire

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Password: 

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TIMSS 2015 Curriculum Questionnaire – Fourth 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 curricula 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@bc.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 - English
You are logged in as: 9911 Logout

TIMSS 2015 Curriculum Questionnaire – Fourth 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 8 Curriculum Questionnaire, please skip the General Module using the Table of Contents.
Grade Structure and Student Flow

G1. What is your country's name for the grade(s) tested in TIMSS 2015, in English (e.g., grade 4, grade 8)?


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 1-6, 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. A. 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.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ECED programs for children under 3</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) PPE programs for children age 3 or older</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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:
TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Early Childhood Education

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

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>Topic Area</th>
<th>ECED programs</th>
<th>PPE programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Socio-emotional development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Physical development and health education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Oral language development and communication skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Reading and literacy skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Mathematics and numeracy skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Science including understanding the natural world (e.g., weather)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please specify below:

Comments:

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TIMSS 2015 - English
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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Examinations

Examinations

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 3 to determine placement for entry to secondary school.”
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.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Supervised practicum during the teacher education program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If Yes... How long is this period?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Passing a qualifying examination (e.g., licensing, certification).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Completion of a probationary teaching period.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If Yes... How long is this period?</td>
<td></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>
<td></td>
</tr>
<tr>
<td>e) Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please specify below:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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>Requirement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Supervised practicum during the teacher education program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>If Yes... How long is this period?</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Passing a qualifying examination (e.g., licensing, certification).</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>If No...</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Completion of a probationary teaching period.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>If Yes... How long is this period?</em></td>
<td></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>
<td></td>
</tr>
<tr>
<td>e) Other</td>
<td></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>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please specify below:</td>
<td></td>
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</tr>
</tbody>
</table>

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

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Teaching experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Completion of a specialized school leadership training program (including a school leadership degree program)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please specify below:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 – Fourth Grade - MATHEMATICS MODULE - GRADE 4

MATHEMATICS MODULE - GRADE 4

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

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

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school 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 fourth grade of primary/elementary school?

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 fourth grade of primary/elementary school?

Comments:
TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth 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:

Comments:

If No…
Comments:
M3. For the primary/elementary school mathematics curriculum, what is the grade structure?
Examples: "Grades 1-6"; "Grades 1-4"; "Grades 2-5"

Comments:
**Timss 2015**

**Curriculum Questionnaire – Fourth Grade - Curriculum Specifications**

**Curriculum Specifications**

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

**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)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other: 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 fourth grade of primary/elementary school?

Check one circle only:

- Yes
- No

If Yes...
Please specify the percentage:

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

Check one circle for each line.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Visits by inspectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Research programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) School self-evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) National or regional examinations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other: Please specify below:

Comments:

Please specify below:
Instructional Materials and Use of Technology

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers mathematics instruction at the fourth grade of primary/elementary school 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:

B. Does the national curriculum contain statements/policies about the use of technology (e.g., computers, tablets, calculators) in grade 4 mathematics instruction?

Check one circle only:
- Yes
- No

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

(Continued on Next Page)
C. Does the national curriculum contain statements/policies about student use of technological aids (e.g., computers, tablets, calculators) in grade 4 mathematics tests or examinations?

Check one circle only:

☐ Yes
☐ No

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

Comments:
## Fourth Grade Mathematics Topics Covered

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

**M8. (i) According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?**

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if “Year 5” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

**M8. (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., add and even numbers in part A topic (i)), please explain in the comments field.

<table>
<thead>
<tr>
<th>(i) Proportion of grade 4 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>
</tr>
<tr>
<td></td>
<td>All or almost all students Only the more able students Not included in the curriculum through grade 4</td>
</tr>
<tr>
<td><strong>A. Number</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Concepts of whole numbers, including place value and ordering</td>
<td></td>
</tr>
<tr>
<td>b) Adding, subtracting, multiplying, and/or dividing with whole numbers</td>
<td></td>
</tr>
<tr>
<td>c) Concepts of multiples and factors; odd and even numbers</td>
<td></td>
</tr>
<tr>
<td>d) Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line)</td>
<td></td>
</tr>
<tr>
<td>e) Adding and subtracting with fractions, comparing and ordering fractions</td>
<td></td>
</tr>
<tr>
<td>f) Concepts of decimals, including place value and ordering, adding and subtracting with decimals</td>
<td></td>
</tr>
<tr>
<td>g) Number sentences (finding the missing number, modeling simple situations with number sentences)</td>
<td></td>
</tr>
<tr>
<td>h) Number patterns (extending number patterns and finding missing terms)</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

""
TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

**M8. (continued)**
(i) According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if “Year 5” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(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., odd and even numbers in part A topic (c)), please explain in the comment field.

<table>
<thead>
<tr>
<th>B. Geometric Shapes and Measures</th>
<th>(i) Proportion of grade 4 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) Lines: measuring, estimating length of parallel and perpendicular lines</td>
<td>Check one circle for each line: All or almost all students</td>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>b) Comparing and drawing angles</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>c) Using informal coordinate systems to locate points in a plane (e.g., in square B4)</td>
<td>Not included in the curriculum through grade 4</td>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>d) Elementary properties of common geometric shapes</td>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
<td></td>
</tr>
<tr>
<td>e) Reflections and rotations</td>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
<td></td>
</tr>
<tr>
<td>f) Relationships between two-dimensional and three-dimensional shapes</td>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
<td></td>
</tr>
<tr>
<td>g) Finding and estimating areas, perimeters, and volumes</td>
<td>PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

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TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M8. (continued)
(i) According to the national mathematics curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if “Year 5” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(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., odd and even numbers in part A topic (c)), please explain in the comments field.

<table>
<thead>
<tr>
<th>Proportion of grade 4 students expected to be taught topic</th>
<th>Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<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 4</td>
<td></td>
</tr>
</tbody>
</table>

C. Data Display
a) Reading and representing data from tables, pictographs, bar graphs, or pie charts
b) Drawing conclusions from data displays

Comments:

Table of Contents
TIMSS 2015 Curriculum Questionnaire – Fourth Grade - SCIENCE MODULE - GRADE 4

SCIENCE MODULE - GRADE 4

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

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curricula.
About the Fourth Grade Science Curriculum

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school 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 fourth grade of primary/elementary school?

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 fourth grade of primary/elementary school?

Comments:
TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth 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:

If No...
Comments:
TIMSS 2015 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

S3. For the primary/elementary school science curriculum, what is the grade structure?
Examples: "Grades 1-8", "Grades 1-4", "Grades 2-6"

Comments:
**Curriculum Specifications**

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school 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?**

<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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S5. Does the curriculum or any other official document prescribe the percentage of total instructional time to be devoted to science instruction at the fourth grade of primary/elementary school?

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></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>Visits by inspectors</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Research programs</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>School self-evaluation</td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td>National or regional examinations</td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Please specify below:

Comments:

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TIMSS 2015 Curriculum Questionnaire – Fourth 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 fourth grade students assessed in TIMSS 2015—the curriculum that covers science instruction at the fourth grade of primary/elementary school for the majority of students. If you do not have a national curriculum, please summarize for your state or provincial curriculum.

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 4 science instruction?

Check one circle only:
- Yes
- No

**If Yes...**
What are the statements/policies?
# Fourth Grade Science Topics Covered

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

**S8. (i) According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?**

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if “Year 5” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

**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 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., birds in part A topic (a)), please explain in the comment field.

<table>
<thead>
<tr>
<th>A. Life Science</th>
<th>(i) Proportion of grade 4 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) Characteristics of living things and the major groups of living things (e.g., mammals, birds, insects, flowering plants)</td>
<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>b) Major body structures and their functions in humans, other animals, and plants</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>c) Life cycles of common plants and animals (e.g., humans, butterflies, frogs, flowering plants)</td>
<td>[ ] Not included in the curriculum through grade 4</td>
<td>[ ] PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>d) Understanding that some characteristics are inherited and some are the result of the environment</td>
<td>[ ] Not included in the curriculum through grade 4</td>
<td>[ ] PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>e) How physical features and behaviors help living things survive in their environments</td>
<td>[ ] Not included in the curriculum through grade 4</td>
<td>[ ] PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>f) Relationships in communities and ecosystems (e.g., simple food chains, predator-prey relationships, human impacts on the environment)</td>
<td>[ ] Not included in the curriculum through grade 4</td>
<td>[ ] PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>g) Human health (transmission and prevention of diseases, symptoms of health and illness, importance of a healthy diet and exercise)</td>
<td>[ ] Not included in the curriculum through grade 4</td>
<td>[ ] PP G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
</tbody>
</table>

Comments:
**TIMSS 2015 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered**

**S8. (continued)**

(i) According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if “Year 5” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(ii) Across grades from preparatory 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., birds in part A topic (a)), please explain in the comment field.

<table>
<thead>
<tr>
<th></th>
<th>(i) Proportion of grade 4 students expected to be taught topic</th>
<th>(ii) Grade(s) topic is expected to be taught preparatory (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Check one circle for each.</td>
<td>Check the corresponding grade(s) for each topic</td>
</tr>
<tr>
<td>B. Physical Science</td>
<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>a) States of matter (solid, liquid, gas) and properties of the states of matter (volume, shape); how the state of matter changes by heating or cooling</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>b) Classifying materials based on physical properties (e.g., weightsmass, volume, conducting heat, conducting electricity, magnetic attraction)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>c) Mixtures and how to separate a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>d) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>e) Common sources of energy (e.g., the Sun, electricity, wind) and uses of energy (heating and cooling homes, providing light)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>f) Light and sound in everyday life (e.g., understanding shadows and reflection, understanding that vibrating objects make sound)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>g) Electricity and simple circuits (e.g., identifying materials that are conductors, recognizing that electricity can be changed to light or sound, knowing that a circuit must be complete to work correctly)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>h) Properties of magnets (e.g., knowing that like poles repel and opposite poles attract, recognizing that magnets can attract some objects)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>i) Forces that cause objects to move (e.g., gravity, pushing/pulling)</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>

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

Comments:

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58. (continued)
(i) According to the national science curriculum, what proportion of grade 4 students should have been taught each of the following topics or skills by the end of grade 4?

Be sure to include curriculum expectations for all grades up to and including grade 4. Grades represent years of formal schooling. For example, if “Year 5” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

(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 specific grade specifications for this topic, please indicate national expectations to the limit of your ability, if part of a topic does not apply (e.g., birds in part A topic (ii)), please explain in the comments field.

<table>
<thead>
<tr>
<th>C. Earth Science</th>
<th>(i) Proportion of grade 4 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) Common features of the Earth’s landscape (e.g., mountains, plains, deserts, rivers, oceans) and their relationship to human use (farming, irrigation, land development)</td>
<td><img src="image1" alt="Check boxes" /></td>
<td><img src="image2" alt="Check boxes" /></td>
</tr>
<tr>
<td>b) Where water is found on the Earth and how it moves in and out of the air (e.g., evaporation, rainfall, cloud formation, dew formation)</td>
<td><img src="image3" alt="Check boxes" /></td>
<td><img src="image4" alt="Check boxes" /></td>
</tr>
<tr>
<td>c) Understanding that weather can change from day to day, from season to season, and by geographic location</td>
<td><img src="image5" alt="Check boxes" /></td>
<td><img src="image6" alt="Check boxes" /></td>
</tr>
<tr>
<td>d) Understanding what fossils are and what they can tell us about past conditions on Earth</td>
<td><img src="image7" alt="Check boxes" /></td>
<td><img src="image8" alt="Check boxes" /></td>
</tr>
<tr>
<td>e) Objects in the solar system (the Sun, the Earth, the Moon, and other planets) and their movements (the Earth and other planets revolve around the Sun, the Moon revolves around the Earth)</td>
<td><img src="image9" alt="Check boxes" /></td>
<td><img src="image10" alt="Check boxes" /></td>
</tr>
<tr>
<td>f) Understanding how day and night result from the Earth’s rotation on its axis and how the Earth’s rotation results in changing shadows throughout the day</td>
<td><img src="image11" alt="Check boxes" /></td>
<td><img src="image12" alt="Check boxes" /></td>
</tr>
<tr>
<td>g) Understanding how seasons are related to the Earth’s annual movement around the Sun</td>
<td><img src="image13" alt="Check boxes" /></td>
<td><img src="image14" alt="Check boxes" /></td>
</tr>
</tbody>
</table>

Comments:
TIMSS 2015 Curriculum Questionnaire – Fourth Grade

This completes the Curriculum Questionnaire - Grade 4 Module.
To submit your completed questionnaire, please click the Finish button.

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