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TIMSS 2019
Curriculum Questionnaire

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Password: 
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TIMSS 2019 Curriculum Questionnaire – Fourth Grade

The TIMSS 2019 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 October 30, 2019.

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. When you have completed the questionnaire, please make sure to click the “Submit” button to submit your answers.

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 2019 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 Hamburg (TIMSS email account): tim20@iea-hamburg.de

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TIMSS 2019 - English
You are logged in as: 9998
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TIMSS 2019 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 5 Curriculum Questionnaire, please skip the General Module using the Table of Contents.

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Grade 4 Curriculum Questionnaire

Grade Structure and Student Flow

G1. What is your country's name for the grade(s) tested in TIMSS 2019, in English (e.g., grade 4, grade 8)?

Table of Contents
Q2. 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 what is the status of implementation?

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G4. What are the ages (or grades) of compulsory education in your country?

Example: "Ages 6-18 (or Grades 1-9)."
Q5. 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:
TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Languages of Instruction

G8. A. State the official language(s) and describe the major language subgroups.

B. Describe the languages of instruction for mathematics and science in the fourth and eighth grades. For example, is the instruction in these grades for these subjects presented to the students in their native language or in a second language?
Early Childhood Education

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

G9. 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>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) ECED programs for children under age 3
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 for each line:

a) ECED programs for children under age 3  
   Yes □  No □

b) PPE programs for children age 3 or older  
   Yes □  No □

Please describe:
TIMSS 2019 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 age 3, and
- Pre-primary education (PPE) programs including Kindergarten for children age 3 or older.

G10. A. Does your country have national curriculum guidance documents for ECED or PPE programs?

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 age 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>

(Continued on Next Page)
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>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

- a) Socio-emotional development
- b) Physical development and health education
- c) Oral language development and communication skills
- d) Reading and literacy skills
- e) Mathematics and numeracy skills
- f) Science including understanding the natural world (e.g., weather)
- g) Other

Please specify below.

Comments:

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Examinations

G11. 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

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.”
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 Please specify below.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
C. Are there additional requirements for teachers of mathematics and science in the fourth grade?

Check one circle only:
- Yes
- No

If Yes....
D. What are they?

E. In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the fourth grade?

Check one circle only:
- Yes
- No

If Yes....
F. How did the policy change, and what is the status of implementation?

Example: "A master's degree will be required in 2020, an oral examination has been required since 2015."

(Continued)
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.

a) Supervised practicum during the teacher education program.
   Yes ☐   No ☐
   If Yes... How long is this period?

b) Passing a qualifying examination (e.g., licensing, certification).
   Yes ☐   No ☐

c) Completion of a probationary teaching period.
   Yes ☐   No ☐
   If Yes... How long is this period?

d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).
   Yes ☐   No ☐

e) Other
   Please specify below.

D. If there are additional requirements for teachers of mathematics and science in the eighth grade that are different than in the fourth grade, what are they?
E. In the last 10 years, has there been a change in the stated official policy about the requirements for being a teacher of students in the eighth grade?

Check one circle only.

- Yes
- No

If Yes....
F. How did the policy change, and what is the status of implementation?
**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>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</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(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>

(Continued on Next Page)
C. In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with fourth grade students?

Check one circle only.

☐ Yes
☐ No

If Yes....

D. How did the policy change, and what is the status of implementation?
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>

(Continued on Next Page)
D. In the last 10 years, has there been a change in the stated official policy about the requirements for being a principal of a school with eighth grade students?

Check one circle only.

- Yes
- No

If Yes....

E. How did the policy change, and what is the status of implementation?
TIMSS 2019 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 2019—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 2019—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?
M2. A. In what year was the 2018/2019 mathematics curriculum introduced?

Comments (e.g., status of implementation):

(Continued on Next Page)
B. Is the mathematics curriculum currently being revised?

Check one circle only:

- Yes
- No

If Yes...
Please explain:

If No...
Comments:
TIMSS 2019 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 2019—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.

M3. 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:
M4. How is the mathematics curriculum implementation evaluated?

Check one circle for each line.

Yes | No
--- | ---
a) Visits by inspectors | ❏ | ❏
b) Research programs | ❏ | ❏
c) School self-evaluation | ❏ | ❏
d) National or regional examinations | ❏ | ❏
e) Other
Please specify below.

Comments:
Use of Digital Devices

This mathematics module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2019—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.

M5. A. Does the national curriculum contain statements/policies about the use of digital devices (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)
TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Use of Digital Devices

B. Does the national curriculum contain statements/policies about student use of digital devices (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:

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M6. At what grade(s) are students first taught by mathematics subject specialists rather than general classroom teachers?
# 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 2019—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. (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 6” in your country corresponds to the fourth year of formal schooling, please choose grade 4.

**M7. (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.

| (i) Proportion of grade 4 students expected to be taught topic | (ii) Grade(s) topic is expected to be taught preprimary (PP) through the end of upper secondary (G12) |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------
| **A. Number**                                                 |                                                                                                |
| a) Concepts of whole numbers, including place value and ordering |                                                                                               |
| b) Adding, subtracting, multiplying, and dividing with whole numbers |                                                                                               |
| c) Concepts of multiples and factors, odd and even numbers |                                                                                               |
| d) Number sentences (finding the missing number, representing problem situations with number sentences) |                                                                                               |
| e) Number patterns (extending number patterns and finding missing terms) |                                                                                               |
| f) Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple fractions |                                                                                               |
| g) Concepts of decimals, including place value and ordering, adding and subtracting with decimals |                                                                                               |
TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M7. (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. Measurement and Geometry</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></td>
<td>Check one circle for each line</td>
<td>Check the corresponding grade(s) for each topic.</td>
</tr>
<tr>
<td>a) Solving problems involving length, including measuring and estimating</td>
<td>Only the most able students included in the curriculum through grade 4</td>
<td>G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>b) Solving problems involving mass, volume, and time</td>
<td>All or almost all students included in the curriculum through grade 4</td>
<td>G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12</td>
</tr>
<tr>
<td>c) Finding and estimating perimeter, area, and volume</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Parallel and perpendicular lines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Comparing and drawing angles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Elementary properties of common geometric shapes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Three-dimensional shapes, including relationships with their two-dimensional representations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Mathematics Topics Covered

M7. (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>C. Data</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>All or almost all students</td>
<td>Not included in the curriculum through grade 4</td>
<td>Check the corresponding grade(s) for each topic</td>
</tr>
</tbody>
</table>

a) Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts

b) Organizing and representing data to help answer questions

c) Drawing conclusions from data displays

Comments:
TIMSS 2019 Curriculum Questionnaire – Fourth Grade - 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 2019—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 2019—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?

- 

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S2. A. In what year was the 2018/2019 science curriculum introduced?

Comments (e.g., status of implementation):

(Continued on Next Page)
B. Is the science curriculum currently being revised?

Check one circle only:

- Yes
- No

If Yes...
Please explain:

If No...
Comments:

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

Curriculum Specifications

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2019—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.

S3. 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:

© IEA Online SurveySystem 2019 - Help
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>Visits by inspectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Research programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>School self-evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td>National or regional examinations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please specify below:

Comments:

---

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Use of Digital Devices

This science module refers to the national curriculum that was in effect for the fourth grade students assessed in TIMSS 2019—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.

S5. Does the national curriculum contain statements/policies about the use of digital devices (e.g., computers, tablets, calculators) in grade 4 science instruction?

Check one circle only.

☐ Yes
☐ No

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

☐ IEA Online SurveySystem 2019 - Help
S6. At what grade(s) are students first taught by science subject specialists rather than general classroom teachers?
### 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 2019—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.

**S7. (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 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>(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>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>Only the more able students</td>
</tr>
</tbody>
</table>

#### A. Life Science

<table>
<thead>
<tr>
<th>a) Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants)</th>
<th>PP</th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
<th>G6</th>
<th>G7</th>
<th>G8</th>
<th>G9</th>
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<tr>
<th>b) Major body structures and their functions in humans, other animals, and plants</th>
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<tr>
<th>c) Life cycles of common plants and animals (e.g., flowering plants, butterflies, frogs)</th>
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<tr>
<th>d) Characteristics of plants and animals that are inherited</th>
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<tr>
<th>e) Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments)</th>
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<th>f) Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition)</th>
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<th>g) Human health (transmission and prevention of diseases, everyday behaviors that promote good health)</th>
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## TIMSS & PIRLS
Lynch School of Education
International Study Center

### Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

**S7. (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 3” 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 no national specifications for this topic, 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>B. Physical 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 preparatory (PP) through the end of upper secondary (G12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) States of matter (solid, liquid, gas) and their properties (volume, shape)</td>
<td>Check one circle for each line: All or almost all students, only the more able students, 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>b) Classifying materials based on physical properties (e.g., weight, mass, volume, state of matter, conductivity of heat or electricity)</td>
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<td>c) Mixtures, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet)</td>
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<td>d) Properties of magnets (e.g., like poles repel and opposite poles attract, magnets can attract some objects)</td>
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<td>e) Physical changes in everyday life (e.g., changes of state, dissolving)</td>
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<tr>
<td>f) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking)</td>
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<tr>
<td>g) Common sources of energy (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light)</td>
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<tr>
<td>h) Light and sound in everyday life (e.g., shadows and reflections, vibrating objects make sound)</td>
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</table>

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

<table>
<thead>
<tr>
<th>Topic</th>
<th>Selected</th>
<th>Options</th>
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<tbody>
<tr>
<td>i) Heat transfer (e.g., energy flows from a hot object to a colder object)</td>
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<tr>
<td>j) Electricity and simple electrical circuits (e.g., a circuit must be complete to work correctly)</td>
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<tr>
<td>k) Forces that cause objects to move (e.g., gravity, pushing/pulling) or change their motion (e.g., friction)</td>
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<tr>
<td>l) Simple machines (e.g., levers, pulleys, wheels, ramps) that help make motion easier</td>
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Comments:

(Continued)
57. (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 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>G. Earth Science</th>
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<tbody>
<tr>
<td>a) Physical makeup of Earth’s surface (e.g., land and water in unequal proportions, sources of fresh and salt water)</td>
</tr>
<tr>
<td>b) Earth’s resources used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals)</td>
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<tr>
<td>c) Changes in Earth’s surface over time (e.g., mountain building, weathering, erosion)</td>
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<tr>
<td>d) Fossils and what they can tell us about past conditions on Earth</td>
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<tr>
<td>e) Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends)</td>
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<tr>
<td>f) Objects in the Solar System (the Sun, the Earth, the Moon, and other planets) and their movements</td>
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<td>g) Earth’s motion and related patterns observed on Earth (e.g., day and night, seasons)</td>
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<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 propfrinay (PP) through the end of upper secondary (G12)</th>
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<tbody>
<tr>
<td>Check one circle for each time. Only the more able students included in the curriculum through grade 4.</td>
<td>Check the corresponding grade(s) for each topic</td>
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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Fourth Grade Science Topics Covered

Comments:

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Thank you for completing the TIMSS 2019 Curriculum Questionnaire.
Your information has been stored successfully.