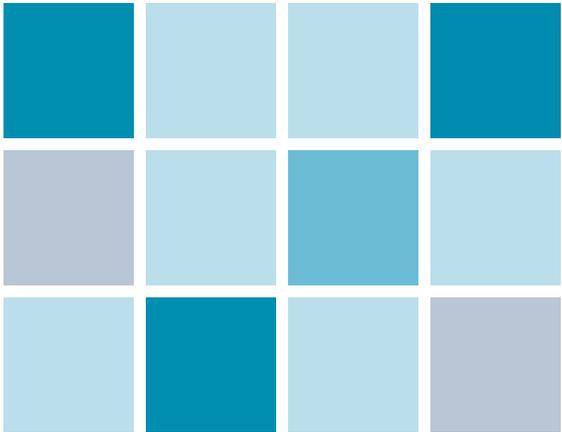




# TIMSS 2019 Curriculum Questionnaire Fourth Grade





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### TIMSS 2019 Curriculum Questionnaire

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#### TIMSS 2019 Curriculum Questionnaire – Fourth Grade

### 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](mailto:timss@bc.edu)

If you have any technical questions on how to complete this questionnaire, please contact the IEA Hamburg (TIMSS email account): [timss@iea-hamburg.de](mailto:timss@iea-hamburg.de)

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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 8 Curriculum Questionnaire, please skip the General Module using the Table of Contents.*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

### 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)?

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

**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."*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

**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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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

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

*Example: "Ages 6-16 (or Grades 1-9)."*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

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

*Example: "Grades 1-12."*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

**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:**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Grade Structure and Student Flow

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

Check *one* circle only.

- Yes
- No

**Please describe:**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Languages of Instruction

### 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?**

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### 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.

- |   | Yes                   | No                    |
|---|-----------------------|-----------------------|
| a) ECED programs for children under age 3   | <input type="radio"/> | <input type="radio"/> |
| b) PPE programs for children age 3 or older | <input type="radio"/> | <input type="radio"/> |

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

Check **one** circle only.

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

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**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.

- |   | Yes                   | No                    |
|---|-----------------------|-----------------------|
| a) ECED programs for children under age 3   | <input type="radio"/> | <input type="radio"/> |
| b) PPE programs for children age 3 or older | <input type="radio"/> | <input type="radio"/> |

**Please describe:**

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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.

- |   | Yes                   | No                    |
|---|-----------------------|-----------------------|
| a) ECED programs for children under age 3   | <input type="radio"/> | <input type="radio"/> |
| b) PPE programs for children age 3 or older | <input type="radio"/> | <input type="radio"/> |

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Early Childhood Education

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.

	ECED programs		PPE programs	
	Yes	No	Yes	No
a) Socio-emotional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Physical development and health education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Oral language development and communication skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Reading and literacy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Mathematics and numeracy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Science including understanding the natural world (e.g., weather)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Other Please specify below:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Examinations

## 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

**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."*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

## 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."*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

**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.

	Yes	No
a) Supervised practicum during the teacher education program.	<input type="radio"/>	<input type="radio"/>
If Yes... How long is this period? <input style="width: 150px;" type="text"/>		
b) Passing a qualifying examination (e.g., licensing, certification).	<input type="radio"/>	<input type="radio"/>
c) Completion of a probationary teaching period.	<input type="radio"/>	<input type="radio"/>
If Yes... How long is this period? <input style="width: 150px;" type="text"/>		
d) Completion of a mentoring or induction program (e.g., experienced teachers work with novice teachers to provide instructional guidance).	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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**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 2018."*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

**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?**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

**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.

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

**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?**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Teacher Preparation

**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?**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

## 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.*

	Yes	No
a) Teaching experience	<input type="radio"/>	<input type="radio"/>
b) Completion of a specialized school leadership training program (including a school leadership degree program)	<input type="radio"/>	<input type="radio"/>
c) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

**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?**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

**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.

	Yes	No
a) Teaching experience	<input type="radio"/>	<input type="radio"/>
b) Completion of a specialized school leadership training program (including a school leadership degree program)	<input type="radio"/>	<input type="radio"/>
c) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Principal Preparation

**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?**

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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.*

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### 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?**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

**M2. A. In what year was the 2018/2019 mathematics curriculum introduced?**

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

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Mathematics Curriculum

**B. Is the mathematics 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 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:**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Curriculum Specifications

**M4. How is the mathematics curriculum implementation evaluated?**

*Check one circle for each line.*

	Yes	No
a) Visits by inspectors	<input type="radio"/>	<input type="radio"/>
b) Research programs	<input type="radio"/>	<input type="radio"/>
c) School self-evaluation	<input type="radio"/>	<input type="radio"/>
d) National or regional examinations	<input type="radio"/>	<input type="radio"/>
e) Other Please specify below:	<input type="radio"/>	<input type="radio"/>

**Comments:**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Use of Digital Devices

**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?**

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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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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Specialist Mathematics Teachers

### Specialist Mathematics Teachers

**M6. At what grade(s) are students first taught by mathematics subject specialists rather than general classroom teachers?**

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### 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 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.

	(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)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	Check the corresponding grade(s) for each topic.												
A. Number	Check one circle for each line.			Check the corresponding grade(s) for each topic.												
				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
a) Concepts of whole numbers, including place value and ordering	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Adding, subtracting, multiplying, and dividing with whole numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Concepts of multiples and factors; odd and even numbers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Number sentences (finding the missing number, representing problem situations with number sentences)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Number patterns (extending number patterns and finding missing terms)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Concepts of fractions, including representing, comparing and ordering, adding and subtracting simple fractions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Concepts of decimals, including place value and ordering, adding and subtracting with decimals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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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.*

	(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)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	Check the corresponding grade(s) for each topic.												
<b>B. Measurement and Geometry</b>				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
a) Solving problems involving length, including measuring and estimating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Solving problems involving mass, volume, and time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Finding and estimating perimeter, area, and volume	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Parallel and perpendicular lines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Comparing and drawing angles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Elementary properties of common geometric shapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Three-dimensional shapes, including relationships with their two-dimensional representations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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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.*

	(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)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	Check the corresponding grade(s) for each topic.												
	Check <b>one</b> circle for each line.			Check the corresponding grade(s) for each topic.												
				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
<b>C. Data</b>																
a) Reading and interpreting data from tables, pictographs, bar graphs, line graphs, and pie charts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Organizing and representing data to help answer questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Drawing conclusions from data displays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2019 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 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.*

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

### 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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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

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

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

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - About the Fourth Grade Science Curriculum

**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:**

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**S4. How is the science curriculum implementation evaluated?**

*Check **one** circle for each line.*

	Yes	No
a) Visits by inspectors	<input type="radio"/>	<input type="radio"/>
b) Research programs	<input type="radio"/>	<input type="radio"/>
c) School self-evaluation	<input type="radio"/>	<input type="radio"/>
d) National or regional examinations	<input type="radio"/>	<input type="radio"/>
e) Other	<input type="radio"/>	<input type="radio"/>
Please specify below:		

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Use of Digital Devices

### 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?**

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TIMSS 2019 Curriculum Questionnaire – Fourth Grade - Specialist Science Teachers

### Specialist Science Teachers

**S6. At what grade(s) are students first taught by science subject specialists rather than general classroom teachers?**

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### 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.

	(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)												
	Check <b>one</b> circle for each line.			Check the corresponding grade(s) for each topic												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
<b>A. Life Science</b>																
a) Physical and behavioral characteristics of living things and major groups of living things (e.g., mammals, birds, insects, flowering plants)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Major body structures and their functions in humans, other animals, and plants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Life cycles of common plants and animals (e.g., flowering plants, butterflies, frogs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Characteristics of plants and animals that are inherited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Interactions between organisms and their environments (e.g., physical features and behaviors that help living things survive in their environments)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Relationships in ecosystems (e.g., simple food chains, predator-prey relationships, competition)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Human health (transmission and prevention of diseases, everyday behaviors that promote good health)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2019 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 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.*

	(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)												
	Check <b>one</b> circle for each line.			Check the corresponding grade(s) for each topic												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
<b>B. Physical Science</b>																
a) States of matter (solid, liquid, gas) and their properties (volume, shape)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Classifying materials based on physical properties (e.g., weight/mass, volume, state of matter, conductivity of heat or electricity)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Mixtures, including methods for separating a mixture into its components (e.g., sifting, filtering, evaporation, using a magnet)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Properties of magnets (e.g., like poles repel and opposite poles attract, magnets can attract some objects)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Physical changes in everyday life (e.g., changes of state, dissolving)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Chemical changes in everyday life (e.g., decaying, burning, rusting, cooking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Common sources of energy (e.g., the Sun, wind, oil) and uses of energy (heating and cooling homes, providing light)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Light and sound in everyday life (e.g., shadows and reflections, vibrating objects make sound)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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TIMSS 2019 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 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.*

	(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)												
	All or almost all students	Only the more able students	Not included in the curriculum through grade 4	Check the corresponding grade(s) for each topic												
	Check <b>one</b> circle for each line.			Check the corresponding grade(s) for each topic												
C. Earth Science				PP	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
a) Physical makeup of Earth's surface (e.g., land and water in unequal proportions, sources of fresh and salt water)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Earth's resources used in everyday life (e.g., water, wind, soil, forests, oil, natural gas, minerals)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Changes in Earth's surface over time (e.g., mountain building, weathering, erosion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Fossils and what they can tell us about past conditions on Earth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Weather and climate (e.g., daily, seasonal, and locational variations versus long term trends)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Objects in the Solar System (the Sun, the Earth, the Moon, and other planets) and their movements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Earth's motion and related patterns observed on Earth (e.g., day and night, seasons)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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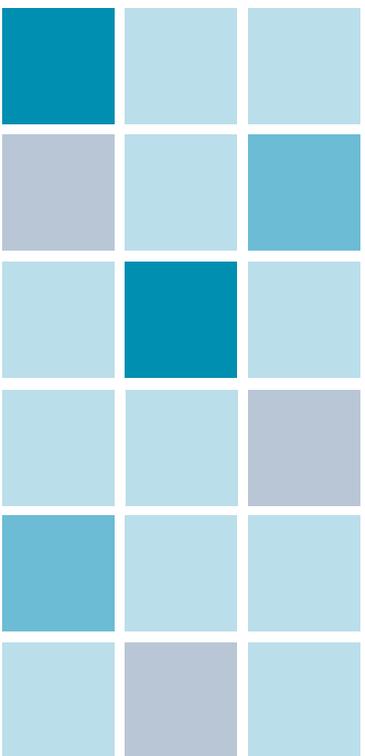


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2019



Grade

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