



200

Main Survey

**Curriculum
Questionnaire**

Science
<Grade 4>

General Directions

This questionnaire is addressed to National Research Coordinators, who are asked to supply information about their nation's intended curriculum in science. This will help provide background information for interpretation of the school and achievement data collected in other parts of the TIMSS 2003 study. Your responses are very important in helping to provide a better understanding of the study results.

Contact Information

Country: _____

Name of Individual
Completing Report: _____

Position of Individual
Completing Report: _____

Address: _____

Email: _____

Phone: _____

Fax: _____

Others (and positions) involved in providing information in completing questionnaire:

National Curriculum

IMPORTANT: Throughout this questionnaire, the term “national curriculum” is intended to include any centrally-supported curriculum. The curriculum need not be mandated but it should be strongly recommended or at least widely used.

This curriculum may not necessarily be articulated in a formal document, or different aspects of the curriculum may appear in different documents.

1

A. Does your country have a national curriculum that includes science at <grade 4>?

Yes No

Fill in **one** circle only -----○ ---○

Note: If No, please complete the remainder of the questionnaire based on your best informed judgment of the intended science curriculum for the majority of <grade 4> students in your country. If it is impossible to answer a particular question, just make a note and move to the next question.

B. If there is not a national curriculum, what is the highest level of decision-making authority that provides a curriculum for <grade 4> science?

C. In what year was the current intended science curriculum for <grade 4> introduced?

D. Is the intended science curriculum that includes <grade 4> currently being revised?

Yes No


Fill in **one** circle only -----○ ---○

2

A. Across grades K-12, does an education authority in your country (e.g., National Ministry of Education) administer examinations in science that have consequences for individual students, such as determining grade promotion, entry to a higher school system, entry to university, and/or exiting or graduating from high school?

Yes No

Fill in **one** circle only -----○ ---○

If No, please go to question 3 

B. If YES, please describe the authority which administers examinations in science, and list the grades at which they are given.

If examinations in separate science subjects such as life science, physical science, and earth science are given at different grades, please indicate this.

4

Does the national curriculum specify the amount of instructional time that should be devoted to science?

*Fill in **one** circle for each row*

No

Yes

a) at <grade 2> -----○ ---○

If **Yes**, what percentage of total instructional time is supposed to be devoted to science? ----- _____

5

Which best describes how the national science curriculum at <grade 4> addresses the issue of students with different levels of ability?

*Fill in **one** circle only*

The same curriculum is prescribed for all students -----○


The same curriculum is prescribed for students of different ability levels, but at different levels

7

A. Does the national curriculum contain statements/policies about the emphasis that should be placed on scientific inquiry in <grade 4> science?

Yes No

Fill in **one** circle only -----○-----○

If **No**, please go to question **8** 


B. If YES, what are the statements/policies?

8

A. Does the national curriculum contain statements/policies about the use of computers in <grade 4> science?

Yes No

Fill in **one** circle only -----○-----○

If **No**, please go to question **9** 

B. If YES, what are the statements/policies?

Teacher Education and Certification

9

A. Do <grade 4> science teachers receive specific preparation in how to teach the intended science curriculum at <grade 4>

Fill in one circle for each row

	<input type="checkbox"/>	No
	<input type="checkbox"/>	Yes

- a) As part of pre-service education ----- ---
- b) As part of in-service education ----- ---

B. If you answered YES to either (a) or (b), describe the nature of the preparation. gs266.83 587eod science curriculum at <grade 4>

12

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>?

Across grades K-12, at what grade(s) are the topics primarily intended to be taught?

Be sure to include curriculum expectations for all grades up to and including <grade 4>. 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., methods of preventing and treating illness in topic (i) below), please cross out that part and answer for the major part of the topic.

Proportion of <grade 4> students expected to be taught topic	Grade(s) topic is expected to be taught K-12
---	---

*Fill in **one** circle for each row*

Not included in the curriculum through <grade 4>

Only the more able students

All or almost all students

	Proportion of <grade 4> students expected to be taught topic			Grade(s) topic is expected to be taught K-12
	Not included in the curriculum through <grade 4>	Only the more able students	All or almost all students	
<i>Fill in one circle for each row</i>				
B. Physical Science				
a) Classification of objects and materials on the basis of observable physical properties -----	○	○	○	_____
b) Properties and uses of metals -----	○	○	○	_____
c) Forming and separating mixtures -----	○	○	○	_____
d) Properties and uses of water -----	○	○	○	_____
e) Chemical and physical changes (e.g., decaying of animal/plant matter, burning, rusting) -----	○	○	○	_____
f) States of matter (solids, liquids, and gases) and differences in their physical properties in terms of shape and volume -----	○	○	○	_____
g) Changes in state of water by heating and cooling (melting, freezing, boiling) ---	○	○	○	_____
h) Common energy sources/forms and their practical uses (e.g., wind, sun, electricity, burning fuel, water wheel, food) -----	○	○	○	_____
i) Heat flow and temperature -----	○	○	○	_____
j) Common sources of light (e.g., bulb, flame, sun) and familiar physical phenomena related to light (e.g., formation of rainbows and shadows, visibility of objects, mirrors, colors) -----	○	○	○	_____
k) Common uses of electricity and electrical circuits -----	○	○	○	_____
l) Magnets (north and south poles, magnetic attraction and repulsion) -----	○	○	○	_____
m) Forces that cause objects to move (e.g., gravity, push/pull forces) -----	○	○	○	_____

12 continued

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>?

Across grades K-12, at what grade(s) are the topics primarily intended to be taught?

Be sure to include curriculum expectations for all grades up to and including <grade 4>. 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, please cross out that part and answer for the major part of the topic.

	Proportion of <grade 4> students expected to be taught topic			Grade(s) topic is expected to be taught K-12
	Not included in the curriculum through <grade 4>	Only the more able students	All or almost all students	
<i>Fill in one circle for each row</i>				
C. Earth Science				
a) Rocks, minerals, sand, and soil (physical properties, locations, and uses of these materials) -----	○	○	○	_____
b) Water on Earth (location, types, and movement) -----	○	○	○	_____
c) Air (composition, proof of its existence, uses, and importance for supporting life) -----	○	○	○	_____
d) Common features of the Earth's landscape (e.g., mountains, plains, rivers, deserts) and relationship to human use (e.g., farming, irrigation, land development) -----	○	○	○	_____
e) Use and conservation of Earth's natural resources -----	○	○	○	_____
f) Earth's water cycle (water flowing in rivers from mountains to sea, cloud formation and precipitation) -----	○	○	○	_____
g) Weather conditions from day to day or over the seasons -----	○	○	○	_____
h) Fossils of animals and plants (age, formation) -----	○	○	○	_____
i) Earth's solar system (planets, sun, moon) -----	○	○	○	_____

Thank You

**for completing
this questionnaire**

