TIMSS 2007 Mathematics Curriculum Questionnaire

Mathematics Curriculum and Instruction in Primary/Elementary Schools

1. Does your country have a national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling?

   *Check **one** circle only.*

   Yes--- ○

   No--- ○

   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 schooling?

   If Yes…
   Comments:

2. What is the grade-to-grade structure of the primary/elementary school curriculum that covers mathematics instruction (e.g., grades 1-5; grades 1-3, 4-5; grades 1, 2-4)?

Comments:

3. In what year was the current mathematics curriculum introduced?

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

4. Is the mathematics curriculum currently being revised?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

If Yes…
Please explain:

If No…
Comments:

5. What does the mathematics curriculum prescribe?

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

	Yes	No
a) Goals and objectives---------	○	○
b) Processes or methods--------	○	○
c) Materials----------	○	○
d) Percentage of students reaching defined goals----------	○	○
e) Other---------- Please specify: _____	○	○

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

6. Does the national curriculum contain statements/policies about the use of calculators in grade 4 mathematics?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

If Yes…
What are the statements/policies?

If No…
Comments:

7. Does the national curriculum contain statements/policies about the use of computers in grade 4 mathematics?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

If Yes…
What are the statements/policies?

If No…
Comments:

8. How much emphasis does the national mathematics curriculum place on the following?

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

	None	Very Little	Some	A lot
a) Mastering basic skills and procedures----------	○	○	○	○
b) Understanding mathematical concepts and principles----------	○	○	○	○
c) Applying mathematics in real-life contexts----------	○	○	○	○
d) Communicating mathematically-----	○	○	○	○
e) Reasoning mathematically----------	○	○	○	○
f) Incorporating the experiences of different ethnic/cultural groups-------	○	○	○	○
g) Integrating mathematics with other subjects----------	○	○	○	○

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

9. 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?

   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., location on a number line in part A topic (g)), please explain in the comment field.

	Proportion of grade 4 students expected to be taught topic *Check **one** circle for each line.*			**Grade(s) topic is expected to be taught K-12**
	All or almost all students	**Only the more able students**	**Not included in the curriculum through grade 4**	
A. Number				
a) Representing whole numbers using words, diagrams, or symbols----------	○	○	○	_____
b) Whole numbers including place value and ordering-------	○	○	○	_____
c) Computation with whole numbers----------	○	○	○	_____
d) Multiples and factors of numbers----------	○	○	○	_____
e) Estimation with whole numbers----------	○	○	○	_____
f) Problems involving proportions----------	○	○	○	_____
g) Fractions (parts of a whole or a collection, location on a number line)----------	○	○	○	_____
h) Equivalent fractions----------	○	○	○	_____

i) Comparing and ordering simple fractions----------		_____
j) Fractions represented by words, numbers, or models----		_____
k) Adding and subtracting simple fractions----------		_____
l) Decimal place value including writing decimals using words and numbers----------		_____
m) Adding and subtracting with decimals----------		_____
n) Finding the missing number in a number sentence (e.g., if 17 + ___= 29, what number would go in the blank to make the number sentence true?)----		_____
o) Model simple situations involving unknowns with expressions or number sentences----------		_____
p) Extending patterns and finding missing terms in them----------		_____
q) Describing relationships between adjacent terms in a sequence----------		_____
r) Generating pairs of numbers following a given rule (e.g., multiply the first number by 3 and add 2 to get the second number)----------		_____
s) Finding a rule for a relationship given some pairs of numbers which satisfy the relationship----------		_____

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

	Proportion of grade 4 students expected to be taught topic *Check **one** circle for each line.*			Grade(s) topic is expected to be taught K-12
	All or almost all students	**Only the more able students**	**Not included in the curriculum through grade 4**	
B. Geometric Shapes and Measures				
a) Measuring and estimating lengths----------	○	○	○	_____
b) Parallel and perpendicular lines----------	○	○	○	_____
c) Comparing angles by size and drawing angles (e.g., a right angle, angles larger or smaller than a right angle)----------	○	○	○	_____
d) Elementary properties of common geometric shapes----	○	○	○	_____
e) Recognizing relationships between three-dimensional shapes and their two-dimensional representations---	○	○	○	_____
f) Calculating areas and perimeters of squares and rectangles of given dimensions----------	○	○	○	_____
g) Finding areas by covering with a given shape or counting squares----------	○	○	○	_____
h) Estimating areas and volumes----------	○	○	○	_____
i) Using informal coordinate systems to locate points in a plane----------	○	○	○	_____
j) Figures with line symmetry---	○	○	○	_____
k) Reflections and rotations------	○	○	○	_____

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

	Proportion of grade 4 students expected to be taught topic *Check **one** circle for each line.*			Grade(s) topic is expected to be taught K-12
C. Data Display	**All or almost all students**	**Only the more able students**	**Not included in the curriculum through grade 4**	
a) Reading data from tables, pictographs, bar graphs, or pie charts----------	○	○	○	_____
b) Comparing information from related data sets (e.g., given graphs showing the favorite flavors of ice cream in different classes, identify the class with chocolate as the most popular flavor)----------	○	○	○	_____
c) Using information from data displays to answer questions that go beyond directly reading the data displayed (e.g., by performing computations, drawing conclusions, and making predictions)----------	○	○	○	_____
d) Comparing and matching different representations of the same data----------	○	○	○	_____
e) Organizing and displaying data using tables, pictographs, bar graphs, or pie charts-------	○	○	○	_____

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

10. Which best describes how the mathematics curriculum addresses the issue of students with different levels of ability?

Please answer for students in regular classes, and explain provisions for special needs students in the comment box.

*Check **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 of difficulty----------	○
Different curricula are prescribed for students of different ability levels--	○

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

11. In what form is the mathematics curriculum made available?

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

	Yes	No
a) Official publication containing the curriculum----------	○	○
b) Ministry notes and directives----------	○	○
c) Mandated or recommended textbooks----------	○	○
d) Instructional or pedagogical guide----------	○	○
e) Specifically developed or recommended instructional activities----	○	○
f) Other----------	○	○

Please specify:

_____

Refers to the national curriculum that covers mathematics instruction at the fourth grade of primary/elementary schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

12. a) In a typical week, what is the total amount of instructional time prescribed by the curriculum at the fourth grade of primary/elementary school?

hours and minutes

b) What percentage of total instructional time is supposed to be devoted to **mathematics** instruction at the fourth grade of primary/elementary school?

% of total
Write in a number

Comments:

c) Is there a policy to assign mathematics homework at the fourth grade of primary/elementary school?

*Check **one** circle only.*

Yes---
No---

If Yes…
What is the policy?

If No…
Comments:

13. Is there an official policy to provide remedial mathematics instruction at the fourth grade of primary/elementary school?

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
What is the policy?

If No…
Comments:

14. Which are the current requirements for being a primary/elementary grade teacher?

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

	Yes	No
a) A degree from a teacher education program----------	○	○
b) Pre-practicum during teacher education program----------	○	○
c) Supervised practicum in the field----------	○	○
d) Passing a certification examination----------	○	○
e) Completion of a probationary teaching period---------- *If Yes…* How long is this period? _____	○	○
f) Completion of a mentoring or induction program----------	○	○
g) Other---------- Please specify: _____	○	○

Refers to the requirements encompassing fourth grade.

Comments:

15. Is there a process to license or certify primary/elementary grade teachers?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the requirements encompassing fourth grade.

If Yes…
Who certifies/licenses primary/elementary grade teachers?

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

	Yes	**No**
a) Minister/Ministry of Education----------	○	○
b) National/state licensing board----------	○	○
c) Universities/colleges----------	○	○
d) Teacher organization/union----------	○	○
e) Other---------- Please specify: _____	○	○

Comments:

If No…
Comments:

16. As part of pre-service education, do prospective teachers receive specific preparation in how to teach the mathematics curriculum?

*Check **one** circle only.*

Yes--- ○

No--- ○

Comments:

17. How do practicing teachers get help to implement the mathematics curriculum?

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

	Yes	No
a) In-service training----------	○	○
b) Expert teacher/mentor----------	○	○
c) Reduced teaching load for new teachers----	○	○
d) Other----------	○	○

Please specify:

_____

Comments:

18. If changes were made to the mathematics curriculum, how would a teacher learn about them?

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

	Yes	No
a) Special conferences/seminars on curriculum----------	○	○
b) Ministry (Department of Education, Government, Board of Education) Website----------	○	○
c) Printed copies of curriculum distributed to schools----------	○	○
d) Teachers receive own printed copy----------	○	○
e) Professional development/in-service education----------	○	○
f) Ministry Notes----------	○	○
g) Professional association newsletter----------	○	○
h) Education journals----------	○	○
i) Other educational authorities----------	○	○
j) Other----------	○	○

Please specify:

_____

Comments:

19. How are parents informed about the mathematics curriculum?

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

	Yes	No
a) From teachers----------	○	○
b) From the school administration----------	○	○
c) From public awareness campaigns----------	○	○
d) From Ministry Website----------	○	○
e) From Ministry brochures and documents--------	○	○
f) Through parents' associations/organizations----	○	○
g) Other----------	○	○

Please specify:

_____

Comments:

20. Is there a policy to encourage parental involvement in the schools attended by fourth-grade students?

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
What is the policy?

If No…
Comments:

21. 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 assessments----------	○	○
e) Other----------	○	○

Please specify:

_____

Comments:

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

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
Please describe the authority which administers examinations in mathematics, and list the grades at which they are given:

If No…
Comments:

Addendum on Amount of Schooling for Students Tested in TIMSS 2007

1. What is your country's name for the grade tested in TIMSS 2007 in English?

2. In your country, what was the stated official policy or regulation on students' age of entry to primary school (ISCED Level 1) in 2002-2003?

   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".

3. In your country, what was the usual age of students when they began primary school (ISCED Level 1) in 2002-2003? (Note: This response may be the same as that for question 2.)

4. Does your country have a policy on the promotion and retention of students across grades 1-8 (e.g., automatic promotion for grades 1-5, dependent on academic progress for grades 6-8)?

*Check **one** circle only.*

Yes--- ○
No--- ○

If No…
Please describe:

If Yes…
Comments:

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

*Check **one** circle only.*

Yes--- ○
No--- ○

Please describe:

Years of Compulsory Schooling

INSTRUCTIONS: Complete the ages and grades for the years of schooling at the preprimary and primary/secondary levels for your country in the spaces provided below. Specify by what date the student must be this age (e.g., must be age 6 by September 1st).

Preprimary Compulsory Schooling		Preprimary Schooling Provided		Primary and Secondary Compulsory Schooling		Primary and Secondary Schooling Provided	
Ages	Grades	Ages	Grades	Ages	Grades	Ages	Grades

SOURCE: IEA's Trends in International Mathematics and Science Study (TIMSS) 2007