Identification Label

Student ID:

Student Name:

Trends in International Mathematics and Science Study

TIMSS 2007

Student Questionnaire

<Grade 8>

<TIMSS National Research Center Name>
<Address>

International Association for the Evaluation
of Educational Achievement

General Directions

In this questionnaire, you will find questions about yourself. Some questions ask for facts while other questions ask for your opinions.

Read each question carefully and answer as accurately as possible. You may ask for help if you do not understand something or are not sure how to respond.

Each question is followed by a number of answers. Shade in the circle next to the answer of your choice as shown in Examples 1, 2, and 3.

Example 1

Do you go to school?

*Fill in **one** circle only*

Yes ---------- ●

No ---------- ②

Example 2

How often do you do these things?

*Fill in **one** circle for each line*

	Every day	At least once a week	Once or twice a month	A few times a year	Never
a) I listen to music	①	②	●	④	⑤
b) I talk with my friends	●	②	③	④	⑤
c) I play sports	①	●	③	④	⑤

Example 3

Indicate how much you agree with each of these statements.

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	Watching movies is fun	①	●	③	④
b)	I like eating ice cream	●	②	③	④

Read each question carefully, and pick the answer you think is best. Fill in the circle next to or below your answer. If you decide to change an answer to a question, put an "x" over your first choice, and then fill in the circle for your new choice. Ask for help if you do not understand something or are not sure how to answer.

Thank you for your time, effort, and thought in completing this questionnaire.

About You

1

When were you born?

A. *Fill in the circle next to the year you were born*

Year

1989 - ○
1990 - ○
1991 - ○
1992 - ○
1993 - ○
1994 - ○
1995 - ○
1996 - ○
Other - ○

B. *Fill in the circle next to the month you were born*

Month

January - ○
February - ○
March - ○
April - ○
May - ○
June - ○
July - ○
August - ○
September - ○
October - ○
November - ○
December - ○

2

Are you a girl or a boy?

*Fill in **one** circle only*

Girl - ①
Boy - ②

3

How often do you speak <language of test> at home?

*Fill in **one** circle only*

Always ---------- ①

Almost always ---------- ②

Sometimes ---------- ③

Never ---------- ④

4

About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)

*Fill in **one** circle only*

None or very few
(0-10 books) ---------- ①

Enough to fill one shelf
(11-25 books) ---------- ②

Enough to fill one bookcase
(26-100 books) ---------- ③

Enough to fill two bookcases
(101-200 books) ---------- ④

Enough to fill three or more bookcases
(more than 200 books) ---------- ⑤

5

Do you have any of these things at your home?

*Fill in **one** circle for each line*

		Yes	No
a)	Calculator	①	②
b)	Computer (do not include PlayStation®, GameCube®, XBox®, or other TV/video game computers)	①	②
c)	Study desk/table for your use	①	②
d)	Dictionary	①	②
e)	Internet connection	①	②
f)	<country-specific>	①	②
g)	<country-specific>	①	②
h)	<country-specific>	①	②
i)	<country-specific>	①	②

6

A. What is the highest level of education completed by your mother (or stepmother or female guardian)?

*Fill in **one** circle only*

Some <ISCED Level 1 or 2 > or did not go to school ①

<ISCED 2> ②

<ISCED 3> ③

<ISCED 4> ④

<ISCED 5B> ⑤

<ISCED 5A, first degree> ⑥

Beyond <ISCED 5A, first degree> ⑦

I don't know ⑧

B. What is the highest level of education completed by your father (or stepfather or male guardian)?

*Fill in **one** circle only*

Some <ISCED Level 1 or 2 > or did not go to school ①

<ISCED 2> ②

<ISCED 3> ③

<ISCED 4> ④

<ISCED 5B> ⑤

<ISCED 5A, first degree> ⑥

Beyond <ISCED 5A, first degree> ⑦

I don't know ⑧

7

How far in school do you expect to go?

*Fill in **one** circle only*

Finish <ISCED 3> ---------- ①

Finish <ISCED 4> ---------- ②

Finish <ISCED 5B> ---------- ③

Finish <ISCED 5A, first degree> -------- ④

Beyond <ISCED 5A, first degree> ------- ⑤

I don't know ---------- ⑥

Mathematics in School

8

How much do you agree with these statements about learning mathematics?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in mathematics	①	②	③	④
b)	I would like to take more mathematics in school	①	②	③	④
c)	Mathematics is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning mathematics	①	②	③	④
e)	Mathematics is not one of my strengths	①	②	③	④
f)	I learn things quickly in mathematics	①	②	③	④
g)	Mathematics is boring	①	②	③	④
h)	I like mathematics	①	②	③	④

9

How much do you agree with these statements about mathematics?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning mathematics will help me in my daily life	①	②	③	④
b) I need mathematics to learn other school subjects	①	②	③	④
c) I need to do well in mathematics to get into the <university> of my choice	①	②	③	④
d) I need to do well in mathematics to get the job I want	①	②	③	④

10

How often do you do these things in your mathematics lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We practice adding, subtracting, multiplying, and dividing without using a calculator	①	②	③	④
b)	We work on fractions and decimals	①	②	③	④
c)	We solve problems about geometric shapes, lines and angles	①	②	③	④
d)	We interpret data in tables, charts, or graphs	①	②	③	④
e)	We write equations and functions to represent relationships	①	②	③	④
f)	We memorize formulas and procedures	①	②	③	④
g)	We explain our answers	①	②	③	④
h)	We relate what we are learning in mathematics to our daily lives	①	②	③	④
i)	We decide on our own procedures for solving complex problems	①	②	③	④
j)	We review our homework	①	②	③	④
k)	We listen to the teacher give a lecture-style presentation	①	②	③	④
l)	We work problems on our own	①	②	③	④
m)	We work together in small groups	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use calculators	①	②	③	④
q)	We use computers	①	②	③	④

Science in School

11

How much do you agree with these statements about learning science?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in science	①	②	③	④
b)	I would like to take more science in school	①	②	③	④
c)	Science is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning science	①	②	③	④
e)	Science is not one of my strengths	①	②	③	④
f)	I learn things quickly in science	①	②	③	④
g)	Science is boring	①	②	③	④
h)	I like science	①	②	③	④

12

How much do you agree with these statements about science?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning science will help me in my daily life	①	②	③	④
b) I need science to learn other school subjects	①	②	③	④
c) I need to do well in science to get into the <university> of my choice	①	②	③	④
d) I need to do well in science to get the job I want	①	②	③	④

13

How often do you do these things in your science lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We make observations and describe what we see	①	②	③	④
b)	We watch the teacher demonstrate an experiment or investigation	①	②	③	④
c)	We design or plan an experiment or investigation	①	②	③	④
d)	We conduct an experiment or investigation	①	②	③	④
e)	We work in small groups on an experiment or investigation	①	②	③	④
f)	We read our science textbooks and other resource materials	①	②	③	④
g)	We memorize science facts and principles	①	②	③	④
h)	We use scientific formulas and laws to solve problems	①	②	③	④
i)	We give explanations about what we are studying	①	②	③	④
j)	We relate what we are learning in science to our daily lives	①	②	③	④
k)	We review our homework	①	②	③	④
l)	We listen to the teacher give a lecture-style presentation	①	②	③	④
m)	We work problems on our own	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use computers	①	②	③	④

Computers

14

A. Do you ever use a computer? (Do not include PlayStation®, GameCube®, XBox®, or other TV/video game computers.)

	Yes	No
Fill in ***one*** circle only	①	②

*If **No**, please go to question* **15** →

B. Where do you use a computer?

*Fill in **one** circle for each line*

	Yes	No
a) At home	①	②
b) At school	①	②
c) Elsewhere (e.g., public library, friend's home, Internet café)	①	②

C. How often do you use a computer for your schoolwork (in and out of school)?

*Fill in **one** circle for each line*

	Every day	At least once a week	Once or twice a month	A few times a year	Never
a) In mathematics	①	②	③	④	⑤
b) In science	①	②	③	④	⑤

Your School

15

How much do you agree with these statements about your school?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I like being in school	①	②	③	④
b)	I think that students in my school try to do their best	①	②	③	④
c)	I think that teachers in my school want students to do their best	①	②	③	④

16

<u>In school</u>, did any of these things happen during the <u>last month</u>?

*Fill in **one** circle for each line*

		Yes	No
a)	Something of mine was stolen	①	②
b)	I was hit or hurt by other student(s) (e.g., shoving, hitting, kicking)	①	②
c)	I was made to do things I didn't want to do by other students	①	②
d)	I was made fun of or called names	①	②
e)	I was left out of activities by other students	①	②

Things You Do Outside of School

17

On a normal school day, how much time do you spend before or after school doing each of these things?

*Fill in **one** circle for each line*

		No time	Less than 1 hour	1-2 hours	More than 2 but less than 4 hours	4 or more hours
a)	I watch television and videos	①	②	③	④	⑤
b)	I play computer games	①	②	③	④	⑤
c)	I play or talk with friends	①	②	③	④	⑤
d)	I do jobs at home	①	②	③	④	⑤
e)	I work at a paid job	①	②	③	④	⑤
f)	I play sports	①	②	③	④	⑤
g)	I read a book for enjoyment	①	②	③	④	⑤
h)	I use the Internet	①	②	③	④	⑤
i)	I do homework	①	②	③	④	⑤

Homework

18

A. How often does your teacher give you homework in mathematics?

*Fill in **one** circle only*

Every day ---------- ①

3 or 4 times a week---------- ②

1 or 2 times a week---------- ③

Less than once a week ---------- ④

Never ---------- ⑤

*If **Never**, please go to question* **19** →

B. When your teacher gives you mathematics homework, about how many minutes do you usually spend on your homework?

*Fill in **one** circle only*

Zero minutes ---------- ①

1 - 15 minutes ---------- ②

16–30 minutes ---------- ③

31–60 minutes ---------- ④

61–90 minutes ---------- ⑤

More than 90 minutes ---------- ⑥

19

A. How often does your teacher give you homework in science?

*Fill in **one** circle only*

Every day ---------- ①

3 or 4 times a week---------- ②

1 or 2 times a week---------- ③

Less than once a week ---------- ④

Never ---------- ⑤

*If **Never**, please go to question* **20** →

B. When your teacher gives you science homework, about how many minutes do you usually spend on your homework?

*Fill in **one** circle only*

Zero minutes ---------- ①

1 - 15 minutes ---------- ②

16–30 minutes ---------- ③

31–60 minutes ---------- ④

61–90 minutes ---------- ⑤

More than 90 minutes ---------- ⑥

More About You

20

A. Was your mother (or stepmother or female guardian) born in <country>?

	Yes	No
Fill in ***one*** circle only	①	②

B. Was your father (or stepfather or male guardian) born in <country>?

	Yes	No
Fill in ***one*** circle only	①	②

21

A. Were you born in <country>?

	Yes	No
Fill in ***one*** circle only	①	②

*If **Yes**, you have completed the questionnaire*

B. If you were not born in <country>, how old were you when you came to <country>?

*Fill in **one** circle only*

Older than 10 years old ①

5 to 10 years old ②

Younger than 5 years old ③

Thank You

for completing this questionnaire

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Student Questionnaire

<Grade 8>

Identification Label

Student ID:

Student Name:

Trends in International Mathematics and Science Study

TIMSS 2007

Student Questionnaire

SEPARATE SCIENCE SUBJECTS
<Grade 8>

<TIMSS National Research Center Name>
<Address>

International Association for the Evaluation
of Educational Achievement

General Directions

In this questionnaire, you will find questions about yourself. Some questions ask for facts while other questions ask for your opinions.

Read each question carefully and answer as accurately as possible. You may ask for help if you do not understand something or are not sure how to respond.

Each question is followed by a number of answers. Shade in the circle next to the answer of your choice as shown in Examples 1, 2, and 3.

Example 1

Do you go to school?

*Fill in **one** circle only*

Yes ---------- ●

No ---------- ②

Example 2

How often do you do these things?

*Fill in **one** circle for each line*

	Every day	At least once a week	Once or twice a month	A few times a year	Never
a) I listen to music	①	②	●	④	⑤
b) I talk with my friends	●	②	③	④	⑤
c) I play sports	①	●	③	④	⑤

Example 3

Indicate how much you agree with each of these statements.

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	Watching movies is fun	①	●	③	④
b)	I like eating ice cream	●	②	③	④

Read each question carefully, and pick the answer you think is best. Fill in the circle next to or below your answer. If you decide to change an answer to a question, put an "x" over your first choice, and then fill in the circle for your new choice. Ask for help if you do not understand something or are not sure how to answer.

Thank you for your time, effort, and thought in completing this questionnaire.

About You

1

When were you born?

A. *Fill in the circle next to the year you were born*

Year

1989 - ○
1990 - ○
1991 - ○
1992 - ○
1993 - ○
1994 - ○
1995 - ○
1996 - ○
Other - ○

B. *Fill in the circle next to the month you were born*

Month

January - ○
February - ○
March - ○
April - ○
May - ○
June - ○
July - ○
August - ○
September - ○
October - ○
November - ○
December - ○

2

Are you a girl or a boy?

*Fill in **one** circle only*

Girl - ①
Boy - ②

3

How often do you speak <language of test> at home?

*Fill in **one** circle only*

Always ---------- ①

Almost always ---------- ②

Sometimes ---------- ③

Never ---------- ④

4

About how many books are there in your home? (Do not count magazines, newspapers, or your school books.)

*Fill in **one** circle only*

None or very few (0-10 books) ---------- ①

Enough to fill one shelf (11-25 books) ---------- ②

Enough to fill one bookcase (26-100 books) ---------- ③

Enough to fill two bookcases (101-200 books) ---------- ④

Enough to fill three or more bookcases (more than 200 books) ---------- ⑤

5

Do you have any of these things at your home?

*Fill in **one** circle for each line*

		Yes	No
a)	Calculator	①	②
b)	Computer (do not include PlayStation®, GameCube®, XBox®, or other TV/video game computers)	①	②
c)	Study desk/table for your use	①	②
d)	Dictionary	①	②
e)	Internet connection	①	②
f)	<country-specific>	①	②
g)	<country-specific>	①	②
h)	<country-specific>	①	②
i)	<country-specific>	①	②

6

A. What is the highest level of education completed by your mother (or stepmother or female guardian)?

*Fill in **one** circle only*

- Some <ISCED Level 1 or 2> or did not go to school ①
- <ISCED 2> ②
- <ISCED 3> ③
- <ISCED 4> ④
- <ISCED 5B> ⑤
- <ISCED 5A, first degree> ⑥
- Beyond <ISCED 5A, first degree> ⑦
- I don't know ⑧

B. What is the highest level of education completed by your father (or stepfather or male guardian)?

*Fill in **one** circle only*

- Some <ISCED Level 1 or 2> or did not go to school ①
- <ISCED 2> ②
- <ISCED 3> ③
- <ISCED 4> ④
- <ISCED 5B> ⑤
- <ISCED 5A, first degree> ⑥
- Beyond <ISCED 5A, first degree> ⑦
- I don't know ⑧

7

How far in school do you expect to go?

*Fill in **one** circle only*

Finish <ISCED 3> - - - - - - - - - - - - - - - - - - ①

Finish <ISCED 4> - - - - - - - - - - - - - - - - - - ②

Finish <ISCED 5B> - - - - - - - - - - - - - - - - - ③

Finish <ISCED 5A, first degree> - - - - - - - - ④

Beyond <ISCED 5A, first degree> - - - - - - - ⑤

I don't know - ⑥

Mathematics in School

8

How much do you agree with these statements about learning mathematics?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in mathematics	①	②	③	④
b)	I would like to take more mathematics in school	①	②	③	④
c)	Mathematics is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning mathematics	①	②	③	④
e)	Mathematics is not one of my strengths	①	②	③	④
f)	I learn things quickly in mathematics	①	②	③	④
g)	Mathematics is boring	①	②	③	④
h)	I like mathematics	①	②	③	④

9

How much do you agree with these statements about mathematics?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning mathematics will help me in my daily life	①	②	③	④
b) I need mathematics to learn other school subjects	①	②	③	④
c) I need to do well in mathematics to get into the <university> of my choice	①	②	③	④
d) I need to do well in mathematics to get the job I want	①	②	③	④

10

How often do you do these things in your mathematics lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We practice adding, subtracting, multiplying, and dividing without using a calculator	①	②	③	④
b)	We work on fractions and decimals	①	②	③	④
c)	We solve problems about geometric shapes, lines and angles	①	②	③	④
d)	We interpret data in tables, charts, or graphs	①	②	③	④
e)	We write equations and functions to represent relationships	①	②	③	④
f)	We memorize formulas and procedures	①	②	③	④
g)	We explain our answers	①	②	③	④
h)	We relate what we are learning in mathematics to our daily lives	①	②	③	④
i)	We decide on our own procedures for solving complex problems	①	②	③	④
j)	We review our homework	①	②	③	④
k)	We listen to the teacher give a lecture-style presentation	①	②	③	④
l)	We work problems on our own	①	②	③	④
m)	We work together in small groups	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use calculators	①	②	③	④
q)	We use computers	①	②	③	④

Biology in School

11

Are you studying biology in school this year?

	Yes	No
Fill in ***one*** circle only	①	②

*If **No**, please go to question* **15**

12

How much do you agree with these statements about learning biology?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in biology	①	②	③	④
b)	I would like to take more biology in school	①	②	③	④
c)	Biology is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning biology	①	②	③	④
e)	Biology is not one of my strengths	①	②	③	④
f)	I learn things quickly in biology	①	②	③	④
g)	Biology is boring	①	②	③	④
h)	I like biology	①	②	③	④

13

How much do you agree with these statements about biology?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning biology will help me in my daily life	①	②	③	④
b) I need biology to learn other school subjects	①	②	③	④
c) I need to do well in biology to get into the <university> of my choice	①	②	③	④
d) I need to do well in biology to get the job I want	①	②	③	④

14

How often do you do these things in your biology lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We make observations and describe what we see	①	②	③	④
b)	We watch the teacher demonstrate an experiment or investigation	①	②	③	④
c)	We design or plan an experiment or investigation	①	②	③	④
d)	We conduct an experiment or investigation	①	②	③	④
e)	We work in small groups on an experiment or investigation	①	②	③	④
f)	We read our biology textbooks and other resource materials	①	②	③	④
g)	We memorize science facts and principals	①	②	③	④
h)	We use scientific formulas and laws to solve problems	①	②	③	④
i)	We give explanations about what we are studying	①	②	③	④
j)	We relate what we are learning in biology to our daily lives	①	②	③	④
k)	We review our homework	①	②	③	④
l)	We listen to the teacher give a lecture-style presentation	①	②	③	④
m)	We work problems on our own	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use computers	①	②	③	④

Earth Science in School

15

Are you studying earth science in school this year?

	Yes	No
Fill in ***one*** circle only	①	②

*If **No**, please go to question* **19**

16

How much do you agree with these statements about learning earth science?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in earth science	①	②	③	④
b)	I would like to take more earth science in school	①	②	③	④
c)	Earth science is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning earth science	①	②	③	④
e)	Earth science is not one of my strengths	①	②	③	④
f)	I learn things quickly in earth science	①	②	③	④
g)	Earth science is boring	①	②	③	④
h)	I like earth science	①	②	③	④

17

How much do you agree with these statements about earth science?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning earth science will help me in my daily life	①	②	③	④
b) I need earth science to learn other school subjects	①	②	③	④
c) I need to do well in earth science to get into the <university> of my choice	①	②	③	④
d) I need to do well in earth science to get the job I want	①	②	③	④

18

How often do you do these things in your earth science lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We make observations and describe what we see	①	②	③	④
b)	We watch the teacher demonstrate an experiment or investigation	①	②	③	④
c)	We design or plan an experiment or investigation	①	②	③	④
d)	We conduct an experiment or investigation	①	②	③	④
e)	We work in small groups on an experiment or investigation	①	②	③	④
f)	We read our earth science textbooks and other resource materials	①	②	③	④
g)	We memorize science facts and principles	①	②	③	④
h)	We use scientific formulas and laws to solve problems	①	②	③	④
i)	We give explanations about what we are studying	①	②	③	④
j)	We relate what we are learning in earth science to our daily lives	①	②	③	④
k)	We review our homework	①	②	③	④
l)	We listen to the teacher give a lecture-style presentation	①	②	③	④
m)	We work problems on our own	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use computers	①	②	③	④

Chemistry in School

19

Are you studying chemistry in school this year?

	Yes	No
Fill in ***one*** circle only	①	②

*If **No**, please go to question* **23**

20

How much do you agree with these statements about learning chemistry?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in chemistry	①	②	③	④
b)	I would like to take more chemistry in school	①	②	③	④
c)	Chemistry is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning chemistry	①	②	③	④
e)	Chemistry is not one of my strengths	①	②	③	④
f)	I learn things quickly in chemistry	①	②	③	④
g)	Chemistry is boring	①	②	③	④
h)	I like chemistry	①	②	③	④

21

How much do you agree with these statements about chemistry?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning chemistry will help me in my daily life	①	②	③	④
b) I need chemistry to learn other school subjects	①	②	③	④
c) I need to do well in chemistry to get into the <university> of my choice	①	②	③	④
d) I need to do well in chemistry to get the job I want	①	②	③	④

22

How often do you do these things in your chemistry lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We make observations and describe what we see	①	②	③	④
b)	We watch the teacher demonstrate an experiment or investigation	①	②	③	④
c)	We design or plan an experiment or investigation	①	②	③	④
d)	We conduct an experiment or investigation	①	②	③	④
e)	We work in small groups on an experiment or investigation	①	②	③	④
f)	We read our chemistry textbooks and other resource materials	①	②	③	④
g)	We memorize science facts and principles	①	②	③	④
h)	We use scientific formulas and laws to solve problems	①	②	③	④
i)	We give explanations about what we are studying	①	②	③	④
j)	We relate what we are learning in chemistry to our daily lives	①	②	③	④
k)	We review our homework	①	②	③	④
l)	We listen to the teacher give a lecture-style presentation	①	②	③	④
m)	We work problems on our own	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use computers	①	②	③	④

Physics in School

23

Are you studying physics in school this year?

	Yes	No
Fill in ***one*** circle only	①	②

*If **No**, please go to question* **27**

24

How much do you agree with these statements about learning physics?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I usually do well in physics	①	②	③	④
b)	I would like to take more physics in school	①	②	③	④
c)	Physics is more difficult for me than for many of my classmates	①	②	③	④
d)	I enjoy learning physics	①	②	③	④
e)	Physics is not one of my strengths	①	②	③	④
f)	I learn things quickly in physics	①	②	③	④
g)	Physics is boring	①	②	③	④
h)	I like physics	①	②	③	④

25

How much do you agree with these statements about physics?

*Fill in **one** circle for each line*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I think learning physics will help me in my daily life	①	②	③	④
b) I need physics to learn other school subjects	①	②	③	④
c) I need to do well in physics to get into the <university> of my choice	①	②	③	④
d) I need to do well in physics to get the job I want	①	②	③	④

26

How often do you do these things in your physics lessons?

*Fill in **one** circle for each line*

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	We make observations and describe what we see	①	②	③	④
b)	We watch the teacher demonstrate an experiment or investigation	①	②	③	④
c)	We design or plan an experiment or investigation	①	②	③	④
d)	We conduct an experiment or investigation	①	②	③	④
e)	We work in small groups on an experiment or investigation	①	②	③	④
f)	We read our physics textbooks and other resource materials	①	②	③	④
g)	We memorize science facts and principles	①	②	③	④
h)	We use scientific formulas and laws to solve problems	①	②	③	④
i)	We give explanations about what we are studying	①	②	③	④
j)	We relate what we are learning in physics to our daily lives	①	②	③	④
k)	We review our homework	①	②	③	④
l)	We listen to the teacher give a lecture-style presentation	①	②	③	④
m)	We work problems on our own	①	②	③	④
n)	We begin our homework in class	①	②	③	④
o)	We have a quiz or test	①	②	③	④
p)	We use computers	①	②	③	④

Computers

27

A. Do you ever use a computer? (Do not include PlayStation®, GameCube®, XBox®, or other TV/video game computers.)

	Yes	No
Fill in ***one*** circle only	①	②

*If **No**, please go to question* **28** →

B. Where do you use a computer?

*Fill in **one** circle for each line*

	Yes	No
a) At home	①	②
b) At school	①	②
c) Elsewhere (e.g., public library, friend's home, Internet café)	①	②

C. How often do you use a computer for your schoolwork (in and out of school)?

*Fill in **one** circle for each line*

	Every day	At least once a week	Once or twice a month	A few times a year	Never
a) In mathematics	①	②	③	④	⑤
b) In biology	①	②	③	④	⑤
c) In earth science	①	②	③	④	⑤
d) In chemistry	①	②	③	④	⑤
e) In physics	①	②	③	④	⑤

Your School

28

How much do you agree with these statements about your school?

*Fill in **one** circle for each line*

		Agree a lot	Agree a little	Disagree a little	Disagree a lot
a)	I like being in school	①	②	③	④
b)	I think that students in my school try to do their best	①	②	③	④
c)	I think that teachers in my school want students to do their best	①	②	③	④

29

<u>In school</u>, did any of these things happen during the <u>last month</u>?

*Fill in **one** circle for each line*

		Yes	No
a)	Something of mine was stolen	①	②
b)	I was hit or hurt by other student(s) (e.g., shoving, hitting, kicking)	①	②
c)	I was made to do things I didn't want to do by other students	①	②
d)	I was made fun of or called names	①	②
e)	I was left out of activities by other students	①	②

Things You Do Outside of School

30

On a normal school day, how much time do you spend before or after school doing each of these things?

*Fill in **one** circle for each line*

	No time	Less than 1 hour	1-2 hours	More than 2 but less than 4 hours	4 or more hours
a) I watch television and videos	①	②	③	④	⑤
b) I play computer games	①	②	③	④	⑤
c) I play or talk with friends	①	②	③	④	⑤
d) I do jobs at home	①	②	③	④	⑤
e) I work at a paid job	①	②	③	④	⑤
f) I play sports	①	②	③	④	⑤
g) I read a book for enjoyment	①	②	③	④	⑤
h) I use the Internet	①	②	③	④	⑤
i) I do homework	①	②	③	④	⑤

Homework

31

A. How often does your teacher give you homework in each of the following subjects?

*Fill in **one** circle for each line*

		Every day	3 or 4 times a week	1 or 2 times a week	Less than once a week	Never
a)	Mathematics	①	②	③	④	⑤
b)	Biology	①	②	③	④	⑤
c)	Earth science	①	②	③	④	⑤
d)	Chemistry	①	②	③	④	⑤
e)	Physics	①	②	③	④	⑤

B. When your teacher gives you homework in each of the following subjects, about how many minutes do you usually spend on your homework?

*Fill in **one** circle for each line*

		Zero minutes	1 - 15 minutes	16–30 minutes	31–60 minutes	61–90 minutes	More than 90 minutes
a)	Mathematics	①	②	③	④	⑤	⑥
b)	Biology	①	②	③	④	⑤	⑥
c)	Earth science	①	②	③	④	⑤	⑥
d)	Chemistry	①	②	③	④	⑤	⑥
e)	Physics	①	②	③	④	⑤	⑥

More About You

32

A. Was your mother (or stepmother or female guardian) born in <country>?

	Yes	No
Fill in ***one*** circle only	①	②

B. Was your father (or stepfather or male guardian) born in <country>?

	Yes	No
Fill in ***one*** circle only	①	②

33

A. Were you born in <country>?

	Yes	No
Fill in ***one*** circle only	①	②

*If **Yes**, you have completed the questionnaire*

B. If you were not born in <country>, how old were you when you came to <country>?

*Fill in **one** circle only*

Older than 10 years old ①

5 to 10 years old ②

Younger than 5 years old ③

Thank You

for completing
this questionnaire

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Student Questionnaire

SEPARATE SCIENCE SUBJECTS
<Grade 8>

Identification Label

Teacher Name: _____

Class Name:_____

Teacher ID: _____ Teacher Link #_____

Trends in International Mathematics and Science Study

TIMSS 2007

Teacher Questionnaire

MATHEMATICS
<Grade 8>

<TIMSS National Research Center Name>
<Address>

International Association for the Evaluation
of Educational Achievement

General Directions

Your school has agreed to participate in TIMSS 2007, a large international study of student learning in mathematics and science in more than 60 countries around the world. Sponsored by the International Association for the Evaluation of Educational Achievement (IEA), TIMSS (for Trends in International Mathematics and Science Study) is measuring trends in student achievement and studying differences in national education systems in order to help improve the teaching and learning of mathematics and science worldwide.

As part of the study, students in a nationwide sample of <eighth-grade> classes in <country> will complete the TIMSS mathematics and science tests. This questionnaire is addressed to teachers who teach mathematics to these students, and seeks information about teachers' academic and professional background, instructional practices, and attitudes toward teaching mathematics. As a teacher of mathematics to students in one of these sampled classes, your responses to these questions are very important in helping to describe mathematics education in <country>.

Some of the questions in this questionnaire refer specifically to students in the "TIMSS class." This is the class that is identified on the cover of this questionnaire, and that will be tested as part of TIMSS 2007 in your school. It is important that you answer each question carefully so that the information that you provide reflects your situation as accurately as possible.

Please identify a time and place where you will be able to complete this questionnaire without being interrupted. This should require no more than 45 minutes. To make it as easy as possible for you to respond, most questions may be answered simply by checking or filling in the appropriate circle.

Once you have completed the questionnaire, place it in the return envelope provided and return it to: <Country Specific Information>

Thank you very much for the time and effort you have put into responding to this questionnaire.

Background Information

1

How old are you?

*Fill in **one** circle only*

- Under 25 ○
- 25–29 ○
- 30–39 ○
- 40–49 ○
- 50–59 ○
- 60 or older ○

2

Are you female or male?

*Fill in **one** circle only*

- Female ○
- Male ○

3

By the end of this school year, how many years will you have been teaching altogether?

_____

Number of years you have taught

Preparation to Teach

4

What is the highest level of formal education you have completed?

*Fill in **one** circle only*

- Did not complete <ISCED 3> ○
- Finished <ISCED 3> ○
- Finished <ISCED 4> ○
- Finished <ISCED 5B> ○
- Finished <ISCED 5A, first degree> ○
- Finished <ISCED 5A, second degree> or higher ○

5

During your <post-secondary> education, what was your major or main area(s) of study?

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

		Yes	No
a)	Mathematics	○	○
b)	Education - Mathematics	○	○
c)	Science	○	○
d)	Education - Science	○	○
e)	Education - General	○	○
f)	Other	○	○

6

Do you have a teaching license or certificate?

	Yes	No
*Fill in **one** circle only*	○	○

7

How well prepared do you feel you are to teach the following topics?

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

	Not applicable	Very well prepared	Somewhat prepared	Not well prepared
A. Number				
a) Computing, estimating or approximating with whole numbers	○	○	○	○
b) Representing decimals and fractions using words, numbers, or models (including number lines)	○	○	○	○
c) Computing with fractions and decimals	○	○	○	○
d) Representing, comparing, ordering, and computing with integers	○	○	○	○
e) Problem solving involving percents and proportions	○	○	○	○
B. Algebra				
a) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns)	○	○	○	○
b) Simplifying and evaluating the algebraic expressions	○	○	○	○
c) Simple linear equations and inequalities, and simultaneous (two variables) equations	○	○	○	○
d) Equivalent representations of functions as ordered pairs, tables, graphs, words, or equations	○	○	○	○
C. Geometry				
a) Geometric properties of angles and geometric shapes (triangles, quadrilaterals, and other common polygons)	○	○	○	○
b) Congruent figures and similar triangles	○	○	○	○
c) Relationship between three–dimensional shapes and their two-dimensional representation	○	○	○	○
d) Using appropriate measurement formulas for perimeters, circumferences, areas of circles, surface areas and volumes	○	○	○	○
e) Cartesian plane - ordered pairs, equations, intercepts, intersections, and gradient	○	○	○	○
f) Translation, reflection, and rotation	○	○	○	○
D. Data and Chance				
a) Reading and displaying data using tables, pictographs, bar graphs, pie charts and line graphs	○	○	○	○
b) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points)	○	○	○	○
c) Judging, predicting, and determining the chances of possible outcomes	○	○	○	○

Professional Development

8

How often do you have the following types of interactions with other teachers?

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

	Never or almost never	2 or 3 times per month	1-3 times per week	Daily or almost daily
a) Discussions about how to teach a particular concept	○	○	○	○
b) Working on preparing instructional materials	○	○	○	○
c) Visits to another teacher's classroom to observe his/her teaching	○	○	○	○
d) Informal observations of **my** classroom by another teacher	○	○	○	○

9

In the past two years, have you participated in professional development in any of the following?

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

	Yes	No
a) Mathematics content	○	○
b) Mathematics pedagogy/instruction	○	○
c) Mathematics curriculum	○	○
d) Integrating information technology into mathematics	○	○
e) Improving students' critical thinking or problem solving skills	○	○
f) Mathematics assessment	○	○

Your School

10

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

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

	Agree a lot	Agree	Disagree	Disagree a lot
a) This school is located in a safe neighborhood	○	○	○	○
b) I feel safe at this school	○	○	○	○
c) This school's security policies and practices are sufficient	○	○	○	○

11

In your current school, how severe is each problem?

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

	Not a problem	Minor Problem	Serious problem
a) The school building needs significant repair	○	○	○
b) Classrooms are overcrowded	○	○	○
c) Teachers do not have adequate workspace outside their classroom	○	○	○

12

How would you characterize each of the following within your school?

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

	Very high	High	Medium	Low	Very low
a) Teachers' job satisfaction	○	○	○	○	○
b) Teachers' understanding of the school's curricular goals	○	○	○	○	○
c) Teachers' degree of success in implementing the school's curriculum	○	○	○	○	○
d) Teachers' expectations for student achievement	○	○	○	○	○
e) Parental support for student achievement	○	○	○	○	○
f) Parental involvement in school activities	○	○	○	○	○
g) Students' regard for school property	○	○	○	○	○
h) Students' desire to do well in school	○	○	○	○	○

The TIMSS Class

The remaining questions refer to the TIMSS class. Remember, "the TIMSS class" is the class which is identified on the cover of this questionnaire, and which will be tested as part of TIMSS 2007 in your school.

13

How many students are in the TIMSS class?

_____

Write in the number of students

14

How many minutes per week do you teach mathematics to the TIMSS class?

_____

Write in the number of minutes per week

15

A. Do you use a textbook(s) in teaching mathematics to the TIMSS class?

	Yes	No
*Fill in **one** circle only*	○	○

*If **No**, please go to question* **16**

B. How do you use a textbook(s) in teaching mathematics to the TIMSS class?

*Fill in **one** circle only*

As the primary basis for my lessons ○

As a supplementary resource ○

16

In a typical week of mathematics lessons for the TIMSS class, what percentage of time do students spend on each of the following activities?

Write in the percent
The total should add to 100%

a) Reviewing homework _____%

b) Listening to lecture-style presentations _____%

c) Working problems with your guidance _____%

d) Working problems on their own without your guidance _____%

e) Listening to you re-teach and clarify content/procedures _____%

f) Taking tests or quizzes _____%

g) Participating in classroom management tasks not related to the lesson's content/purpose (e.g., interruptions and keeping order) _____%

h) Other student activities _____%

Total 100%

17

In teaching mathematics to the students in the TIMSS class, how often do you usually ask them to do the following?

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

		Every or almost every lesson	About half the lessons	Some lessons	Never
a)	Practice adding, subtracting, multiplying, and dividing without using a calculator	○	○	○	○
b)	Work on fractions and decimals	○	○	○	○
c)	Use knowledge of the properties of shapes, lines and angles to solve problems	○	○	○	○
d)	Interpret data in tables, charts or graphs	○	○	○	○
e)	Write equations and functions to represent relationships	○	○	○	○
f)	Memorize formulas and procedures	○	○	○	○
g)	Apply facts, concepts and procedures to solve routine problems	○	○	○	○
h)	Explain their answers	○	○	○	○
i)	Relate what they are learning in mathematics to their daily lives	○	○	○	○
j)	Decide on their own procedures for solving complex problems	○	○	○	○
k)	Work on problems for which there is no immediately obvious method of solution	○	○	○	○
l)	Work together in small groups	○	○	○	○

18

In your view, to what extent do the following limit how you teach the TIMSS class?

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

		Not applicable	Not at all	A little	Some	A lot
Students						
a)	Students with different academic abilities	○	○	○	○	○
b)	Students who come from a wide range of backgrounds (e.g., economic, language)	○	○	○	○	○
c)	Students with special needs (e.g., hearing, vision, speech impairment, physical disabilities, mental or emotional/psychological impairment)	○	○	○	○	○
d)	Uninterested students	○	○	○	○	○
e)	Disruptive students	○	○	○	○	○
Resources						
f)	Shortage of computer hardware	○	○	○	○	○
g)	Shortage of computer software	○	○	○	○	○
h)	Shortage of support for using computers	○	○	○	○	○
i)	Shortage of textbooks for student use	○	○	○	○	○
j)	Shortage of other instructional equipment for students' use	○	○	○	○	○
k)	Shortage of equipment for your use in demonstrations and other exercises	○	○	○	○	○
l)	Inadequate physical facilities	○	○	○	○	○
m)	High student/teacher ratio	○	○	○	○	○

19

By the end of this school year, approximately what percentage of teaching time will you have spent during this school year on each of the following mathematics content areas for the TIMSS class?

Write in the percent
The total should add to 100%

a) Number (e.g., whole numbers, fractions, decimals, ratio, proportion and percent) ---------- _____%

b) Algebra (e.g., patterns, equations, formulas and relationships) ---------- _____%

c) Geometry (e.g., lines and angles, shapes, congruence and similarity, spatial relationships, symmetry and transformations) ---------- _____%

d) Data and Chance (e.g., reading, organizing and representing data, data interpretation and chance) ---------- _____%

e) Other, please specify:

_____ ---------- _____%

Total ---------- 100%

20

The following list includes the main topics addressed by the TIMSS mathematics test. Choose the response that best describes when students in the TIMSS class have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

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

		Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
A. Number				
a)	Whole numbers including place value, factorization, and the four operations	○	○	○
b)	Computations, estimations, or approximations involving whole numbers	○	○	○
c)	Common fractions including equivalent fractions and ordering of fractions	○	○	○
d)	Decimal including place value, ordering, and converting to common fractions (and vice versa)	○	○	○
e)	Representing decimals and fractions using words, numbers, or models (including number lines)	○	○	○
f)	Computations with fractions	○	○	○
g)	Computations with decimals	○	○	○
h)	Representing, comparing, ordering, and computing with integers	○	○	○
i)	Ratios (equivalence, division of a quantity by a given ratio)	○	○	○
j)	Conversion of percents to fractions or decimals and vice versa	○	○	○
B. Algebra				
a)	Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns)	○	○	○
b)	Sums, products, and powers of expressions containing variables	○	○	○
c)	Evaluating expressions for given numeric value	○	○	○
d)	Simplifying or comparing algebraic expressions	○	○	○
e)	Modeling situations using expressions	○	○	○
f)	Evaluating functions/formulas for given values of the variables	○	○	○
g)	Simple linear equations and inequalities, and simultaneous (two variables) equations	○	○	○
h)	Equivalent representations of functions as ordered pairs, tables, graphs, words, or equations	○	○	○

20 Continued

The following list includes the main topics addressed by the TIMSS mathematics test. Choose the response that best describes when students in the TIMSS class have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

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

		Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
C. Geometry				
a)	Angles - acute, right, straight, obtuse, reflex	○	○	○
b)	Relationships for angles at a point, angles on a line, vertically opposite angles, angles associated with a transversal cutting parallel lines, and perpendicularity	○	○	○
c)	Properties of geometric shapes: triangles, quadrilaterals, and other common polygons	○	○	○
d)	Construct or draw triangles and rectangles of given dimensions	○	○	○
e)	Congruent figures (triangles, quadrilaterals) and their corresponding measures	○	○	○
f)	Similar triangles and recall their properties	○	○	○
g)	Relationships between two-dimensional and three-dimensional shapes	○	○	○
h)	Pythagorean theorem (not proof) to find length of a side	○	○	○
i)	Measurement, drawing, and estimation of the size of angles, the lengths of lines, areas, and volumes	○	○	○
j)	Measurement formulas for perimeters, circumferences, areas of circles, surface areas, and volumes	○	○	○
k)	Measures of irregular or compound areas (e.g., by covering with grids or dissecting and rearranging pieces)	○	○	○
l)	Cartesian plane - ordered pairs, equations, intercepts, intersections, and gradient	○	○	○
m)	Line and rotational symmetry for two-dimensional shapes	○	○	○
n)	Translation, reflection, and rotation	○	○	○
D. Data and Chance				
a)	Reading data from tables, pictographs, bar graphs, pie charts, and line graphs	○	○	○
b)	Organizing and displaying data using tables, pictographs, bar graphs, pie charts, and line graphs	○	○	○
c)	Characteristics of data sets including mean, median, range, and shape of distribution (in general terms)	○	○	○
d)	Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points)	○	○	○
e)	Data displays that could lead to misinterpretation (e.g., inappropriate grouping and misleading or distorted scales)	○	○	○
f)	Using data from experiments to predict chances of future outcomes	○	○	○
g)	Using the chances of a particular outcome to solve problems	○	○	○

Calculators and Computers in the TIMSS Class

21

Are the students in the TIMSS class permitted to use calculators during mathematics lessons?

*Fill in **one** circle only*

Yes, with unrestricted use ○

Yes, with restricted use ○

No, calculators are not permitted ○

*If **No,** please go to question* **23** →

22

How often do students in the TIMSS class use calculators in their mathematics lessons for the following activities?

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

	Never	Some lessons	About half the lessons	Every or almost every lesson
a) Check answers	○	○	○	○
b) Do routine computations	○	○	○	○
c) Solve complex problems	○	○	○	○
d) Explore number concepts	○	○	○	○

23

A. Do students in the TIMSS class have computer(s) available to use during their mathematics lessons?

	No	Yes
*Fill in **one** circle only*	○	○

*If **No,** please go to question* **25** →

B. Do any of the computer(s) have access to the Internet?

	No	Yes
*Fill in **one** circle only*	○	○

24

In teaching mathematics to the TIMSS class, how often do you have students use a computer for the following activities?

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

	Never	Some lessons	About half the lessons	Every or almost every lesson
a) Discover mathematics principles and concepts	○	○	○	○
b) Practice skills and procedures	○	○	○	○
c) Look up ideas and information	○	○	○	○
d) Process and analyze data	○	○	○	○

Homework

25

Do you assign mathematics homework to the TIMSS class?

	Yes	No
*Fill in **one** circle only*	○	○

*If **No,** please go to question* **30**

26

How often do you usually assign mathematics homework to the TIMSS class?

*Fill in **one** circle only*

- Every or almost every lesson ○
- About half the lessons ○
- Some lessons ○

27

When you assign mathematics homework to the TIMSS class, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

*Fill in **one** circle only*

- Fewer than 15 minutes ○
- 15-30 minutes ○
- 31-60 minutes ○
- 61-90 minutes ○
- More than 90 minutes ○

28

How often do you assign the following kinds of mathematics homework to the TIMSS class?

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

	Always or almost always	Sometimes	Never or almost never
a) Doing problem/question sets	○	○	○
b) Gathering data and reporting	○	○	○
c) Finding one or more applications of the content covered	○	○	○

29

How often do you do the following with the mathematics homework assignments for the TIMSS class?

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

	Always or almost always	Sometimes	Never or almost never
a) Monitor whether or not the homework was completed	○	○	○
b) Correct assignments and then give feedback to students	○	○	○
c) Have students correct their own homework in class	○	○	○
d) Use the homework as a basis for class discussion	○	○	○
e) Use the homework to contribute towards students' grades or marks	○	○	○

30

How much emphasis do you place on the following sources to monitor students' progress in mathematics?

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

		No emphasis	Little emphasis	Some emphasis	Major emphasis
a)	Classroom tests (for example, teacher made or textbook tests)	○	○	○	○
b)	National or regional achievement tests	○	○	○	○
c)	Your professional judgement	○	○	○	○

31

How often do you give a mathematics test or examination to the TIMSS class?

*Fill in **one** circle only*

- About once a week ○
- About every two weeks ○
- About once a month ○
- A few times a year ○
- Never ○

*If **Never**, you have completed the questionnaire*

32

What item formats do you typically use in your mathematics tests or examinations?

*Fill in **one** circle only*

- Only constructed-response ○
- Mostly constructed-response ○
- About half constructed-response and half objective (e.g., multiple-choice) ○
- Mostly objective ○
- Only objective ○

33

How often do you include the following types of questions in your mathematics tests or examinations?

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

		Never or almost never	Sometimes	Always or almost always
a)	Questions based on recall of facts and procedures	○	○	○
b)	Questions involving application of mathematical procedures	○	○	○
c)	Questions involving searching for patterns and relationships	○	○	○
d)	Questions requiring explanations or justifications	○	○	○

Thank You

for completing this questionnaire

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Teacher Questionnaire

MATHEMATICS
<Grade 8>

Identification Label

Teacher Name: _____

Class Name:_____

Teacher ID: _____ Teacher Link #_____

Trends in International Mathematics and Science Study

TIMSS 2007

Teacher Questionnaire

SCIENCE
<Grade 8>

<TIMSS National Research Center Name>
<Address>

International Association for the Evaluation
of Educational Achievement

General Directions

Your school has agreed to participate in TIMSS 2007, a large international study of student learning in mathematics and science in more than 60 countries around the world. Sponsored by the International Association for the Evaluation of Educational Achievement (IEA), TIMSS (for Trends in International Mathematics and Science Study) is measuring trends in student achievement and studying differences in national education systems in order to help improve the teaching and learning of mathematics and science worldwide.

As part of the study, students in a nationwide sample of <eighth-grade> classes in <country> will complete the TIMSS mathematics and science tests. This questionnaire is addressed to teachers who teach science to these students, and seeks information about teachers' academic and professional background, instructional practices, and attitudes toward teaching science. As a teacher of science to students in one of these sampled classes, your responses to these questions are very important in helping to describe science education in <country>.

Some of the questions in this questionnaire refer specifically to students in the "TIMSS class." This is the class that is identified on the cover of this questionnaire, and that will be tested as part of TIMSS 2007 in your school. If you teach science to some but not all of the students in the TIMSS class, please think of teaching the science class these students are in when answering these class-specific questions. It is important that you answer each question carefully so that the information that you provide reflects your situation as accurately as possible.

Please identify a time and place where you will be able to complete this questionnaire without being interrupted. This should require no more than 45 minutes. To make it as easy as possible for you to respond, most questions may be answered simply by checking or filling in the appropriate circle.

Once you have completed the questionnaire, place it in the return envelope provided and return it to: <Country Specific Information>

Thank you very much for the time and effort you have put into responding to this questionnaire.

Background Information

1

How old are you?

*Fill in **one** circle only*

- Under 25 ○
- 25–29 ○
- 30–39 ○
- 40–49 ○
- 50–59 ○
- 60 or older ○

2

Are you female or male?

*Fill in **one** circle only*

- Female ○
- Male ○

3

By the end of this school year, how many years will you have been teaching altogether?

_____

Number of years you have taught

Preparation to Teach

4

What is the highest level of formal education you have completed?

*Fill in **one** circle only*

- Did not complete <ISCED 3> ○
- Finished <ISCED 3> ○
- Finished <ISCED 4> ○
- Finished <ISCED 5B> ○
- Finished < ISCED 5A, first degree> ○
- Finished <ISCED 5A, second degree> or higher ○

5

During your <post-secondary> education, what was your <u>major or main</u> area(s) of study?

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

		Yes	No
a)	Biology	○	○
b)	Physics	○	○
c)	Chemistry	○	○
d)	<Earth Science>	○	○
e)	Education - Science	○	○
f)	Mathematics	○	○
g)	Education - Mathematics	○	○
h)	Education - General	○	○
i)	Other	○	○

6

Do you have a teaching license or certificate?

	Yes	No
*Fill in **one** circle only*	○	○

7

How well prepared do you feel you are to teach the following topics?

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

	Not well prepared	Somewhat prepared	Very well prepared	Not applicable
A. Biology				
a) Major organs and organ systems in humans and other organisms (structure/function, life processes that maintain stable bodily conditions)	○	○	○	○
b) Cells and their functions, including respiration and photosynthesis as cellular processes	○	○	○	○
c) Reproduction (sexual and asexual) and heredity (passing on of traits, inherited versus acquired/learned characteristics)	○	○	○	○
d) Role of variation and adaptation in survival/extinction of species in a changing environment	○	○	○	○
e) Interaction of living organisms and the physical environment in an ecosystem (energy flow, food webs, effect of changes, cycling of materials)	○	○	○	○
f) Trends in human population and its effects on the environment	○	○	○	○
g) Impact of natural hazards on humans, wildlife, and the environment	○	○	○	○
B. Chemistry				
a) Classification and composition of matter (properties of elements, compounds, mixtures)	○	○	○	○
b) Particulate structure of matter (molecules, atoms, protons, neutrons, and electrons)	○	○	○	○
c) Solutions (solvent, solute, concentration/dilution, effect of temperature on solubility)	○	○	○	○
d) Properties and uses of common acids and bases	○	○	○	○
e) Chemical change (transformation of reactants, evidence of chemical change, conservation of matter, common oxidation reactions - combustion and rusting)	○	○	○	○
C. Physics				
a) Physical states and changes in matter (explanations of properties in terms of movement/distance between particles; phase change, thermal expansion and changes in volume and/or pressure)	○	○	○	○
b) Energy forms, transformations, heat, and temperature	○	○	○	○
c) Basic properties/behaviors of light (reflection, refraction, light and color, simple ray diagrams) and sound (transmission through media, loudness, pitch, amplitude, frequency, relative speed of light and sound)	○	○	○	○
d) Electric circuits (flow of current; types of circuits - parallel/series; current/voltage relationship)	○	○	○	○
e) Properties of permanent magnets and electromagnets	○	○	○	○
f) Forces and motion (types of forces, basic description of motion, use of distance/time graphs, effects of density and pressure)	○	○	○	○

7 Continued

How well prepared do you feel you are to teach the following topics?

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

	Not well prepared	Somewhat prepared	Very well prepared	Not applicable
D. Earth Science				
a) Earth's structure and physical features (Earth's crust, mantle and core; use of topographic maps)	○	○	○	○
b) Earth's processes, cycles and history (rock cycle; water cycle; weather patterns; major geological events; formation of fossils and fossil fuels)	○	○	○	○
c) Environmental concerns (e.g., pollution, global warming, acid rain)	○	○	○	○
d) Use and conservation of Earth's natural resources (renewable/non-renewable resources, human use of land/soil and water resources)	○	○	○	○
e) Earth in the solar system and the universe (phenomena on Earth - day/night, tides, phases of moon, eclipses, seasons; physical features of Earth compared to other bodies; the Sun as a star)	○	○	○	○

Professional Development

8

How often do you have the following types of interactions with other teachers?

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

	Never or almost never	2 or 3 times per month	1-3 times per week	Daily or almost daily
a) Discussions about how to teach a particular concept	○	○	○	○
b) Working on preparing instructional materials	○	○	○	○
c) Visits to another teacher's classroom to observe his/her teaching	○	○	○	○
d) Informal observations of **my** classroom by another teacher	○	○	○	○

9

In the past two years, have you participated in professional development in any of the following?

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

	Yes	No
a) Science content	○	○
b) Science pedagogy/instruction	○	○
c) Science curriculum	○	○
d) Integrating information technology into science	○	○
e) Improving students' critical thinking or inquiry skills	○	○
f) Science assessment	○	○

Your School

10

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

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

	Agree a lot	Agree	Disagree	Disagree a lot
a) This school is located in a safe neighborhood	○	○	○	○
b) I feel safe at this school	○	○	○	○
c) This school's security policies and practices are sufficient	○	○	○	○

11

In your current school, how severe is each problem?

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

	Not a problem	Minor problem	Serious problem
a) The school building needs significant repair	○	○	○
b) Classrooms are overcrowded	○	○	○
c) Teachers do not have adequate workspace outside their classroom	○	○	○
d) Materials are not available to conduct science experiments or investigations	○	○	○

12

How would you characterize each of the following within your school?

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

	Very high	High	Medium	Low	Very low
a) Teachers' job satisfaction	○	○	○	○	○
b) Teachers' understanding of the school's curricular goals	○	○	○	○	○
c) Teachers' degree of success in implementing the school's curriculum	○	○	○	○	○
d) Teachers' expectations for student achievement	○	○	○	○	○
e) Parental support for student achievement	○	○	○	○	○
f) Parental involvement in school activities	○	○	○	○	○
g) Students' regard for school property	○	○	○	○	○
h) Students' desire to do well in school	○	○	○	○	○

The TIMSS Class

The remaining questions refer to the <TIMSS class / class with the TIMSS students>. Remember, "the TIMSS class" is the class which is identified on the cover of this questionnaire, and which will be tested as part of TIMSS 2007 in your school.

13

How many students are in the <TIMSS class/ class with the TIMSS students>?

_____

Write in the number of students

14

How many minutes per week do you teach science to the <TIMSS class>?

_____

Write in the number of minutes per week

15

A. Do you use a textbook(s) in teaching science to the <TIMSS class>?

	Yes	No
*Fill in **one** circle only*	○	○

*If **No**, please go to question* **16**

B. How do you use a textbook(s) in teaching science to the <TIMSS class>?

*Fill in **one** circle only*

As the primary basis for my lessons ○

As a supplementary resource ○

16

In a typical week of science lessons for the <TIMSS class>, what percentage of time do students spend on each of the following activities?

Write in the percent
The total should add to 100%

a) Reviewing homework _____%

b) Listening to lecture-style presentations _____%

c) Working problems with your guidance _____%

d) Working problems on their own without your guidance _____%

e) Listening to you re-teach and clarify content/procedures _____%

f) Taking tests or quizzes _____%

g) Participating in classroom management tasks not related to the lesson's content/purpose (e.g., interruptions and keeping order) _____%

h) Other student activities _____%

Total 100%

17

In teaching science to the students in the <TIMSS class>, how often do you usually ask them to do the following?

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

	Every or almost every lesson	About half the lessons	Some lessons	Never
a) Observe natural phenomena and describe what they see	○	○	○	○
b) Watch me demonstrate an experiment or investigation	○	○	○	○
c) Design or plan experiments or investigations	○	○	○	○
d) Conduct experiments or investigations	○	○	○	○
e) Work together in small groups on experiments or investigations	○	○	○	○
f) Read their textbooks or other resource materials	○	○	○	○
g) Have students memorize facts and principles	○	○	○	○
h) Use scientific formulae and laws to solve routine problems	○	○	○	○
i) Give explanations about something they are studying	○	○	○	○
j) Relate what they are learning in science to their daily lives	○	○	○	○

18

In your view, to what extent do the following limit how you teach the <TIMSS class>?

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

	Not applicable	Not at all	A little	Some	A lot
Students					
a) Students with different academic abilities	○	○	○	○	○
b) Students who come from a wide range of backgrounds (e.g., economic, language)	○	○	○	○	○
c) Students with special needs (e.g., hearing, vision, speech impairment, physical disabilities, mental or emotional/psychological impairment)	○	○	○	○	○
d) Uninterested students	○	○	○	○	○
e) Disruptive students	○	○	○	○	○
Resources					
f) Shortage of computer hardware	○	○	○	○	○
g) Shortage of computer software	○	○	○	○	○
h) Shortage of support for using computers	○	○	○	○	○
i) Shortage of textbooks for student use	○	○	○	○	○
j) Shortage of other instructional equipment for students' use	○	○	○	○	○
k) Shortage of equipment for your use in demonstrations and other exercises	○	○	○	○	○
l) Inadequate physical facilities	○	○	○	○	○
m) High student/teacher ratio	○	○	○	○	○

19

By the end of this school year, approximately what percentage of teaching time will you have spent during this school year on each of the following science content areas for the <TIMSS class>?

Write in the percent
The total should add to 100%

a) Biology (e.g., structure/function; life processes, reproduction/heredity, natural selection; ecosystems, human health) ---------- _____%

b) Chemistry (e.g., classification, composition and properties of matter; chemical change) ---------- _____%

c) Physics (e.g., physical states/ changes in matter; energy; light; sound; electricity and magnetism; forces and motion) ---------- _____%

d) Earth science (e.g., Earth's structure, processes, and resources; the solar system and universe) ---------- _____%

e) Other, please specify:

_____ ---------- _____%

Total ---------- 100%

20

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

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

		Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
A. Biology				
a)	Classification of organisms on the basis of a variety of physical and behavioral characteristics	○	○	○
b)	Major organ systems in humans and other organisms	○	○	○
c)	How the systems function to maintain stable bodily conditions	○	○	○
d)	Cell structures and functions	○	○	○
e)	Photosynthesis and respiration (including substances used and produced) as processes of cells and organisms	○	○	○
f)	Life cycles of organisms, including humans, plants, birds, insects	○	○	○
g)	Reproduction (sexual and asexual), and heredity (passing on of traits, inherited versus acquired/learned characteristics)	○	○	○
h)	Role of variation and adaptation in survival/extinction of species in a changing environment	○	○	○
i)	Interaction of living organisms in an ecosystem (energy flow, food chains and food webs, food pyramids, and the effects of change upon the system)	○	○	○
j)	Cycling of materials in nature (water, carbon/oxygen cycle, decomposition of organisms)	○	○	○
k)	Trends in human population and its effects on the environment	○	○	○
l)	Impact of natural hazards on humans, wildlife, and the environment	○	○	○
m)	Causes of common infectious diseases, methods of infection/transmission, prevention, and the body's natural resistance and healing capabilities	○	○	○
n)	Preventive medicine methods (diet, hygiene, exercise, and lifestyle)	○	○	○

20 Continued

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

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

		Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
B. Chemistry				
a)	Classification and composition of matter (physical and chemical properties, pure substances and mixtures, separation techniques)	○	○	○
b)	Particulate structure of matter (molecules, atoms, protons, neutrons, and electrons)	○	○	○
c)	Solutions (solvents, solutes, effect of temperature on solubility)	○	○	○
d)	Properties and uses of water (composition, melting/boiling points, changes in density/volume)	○	○	○
e)	Properties and uses of common acids and bases	○	○	○
f)	Chemical change (transformation of reactants, evidence of chemical change, conservation of matter)	○	○	○
g)	Common oxidation reactions (combustion, rusting), the need for oxygen and the relative tendency of familiar substances to undergo these reactions	○	○	○
h)	Classification of familiar chemical transformations as releasing or absorbing heat/energy	○	○	○

20 Continued

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

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

		Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
C. Physics				
a)	Physical states and changes in matter (explanations of properties including volume, shape, density, and compressibility in terms of movement/distance between particles, conservation of mass during physical changes)	○	○	○
b)	Processes of melting, freezing, evaporation, and condensation (phase change; melting/boiling points; effects of pressure and purity of substances)	○	○	○
c)	Energy forms, transformations, heat and temperature, including heat transfer	○	○	○
d)	Temperature changes related to changes in volume and/or pressure and to changes in movement or speed of particles	○	○	○
e)	Basic properties/behavior of light (reflection, refraction, light and color, simple ray diagrams)	○	○	○
f)	Properties of sound (transmission through media, ways of describing sound (loudness, pitch, amplitude, frequency), relative speed)	○	○	○
g)	Electric circuits (flow of current, types of circuits – parallel/series) and relationship between voltage and current	○	○	○
h)	Properties of permanent magnets and electromagnets	○	○	○
i)	Forces and motion (types of forces, basic description of motion), use of distance/time graphs	○	○	○
j)	Effects of density and pressure	○	○	○

20 Continued

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

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

		Mostly taught before this year	Mostly taught this year	Not yet taught or just introduced
D. Earth Science				
a)	Earth's structure and physical features (Earth's crust, mantle, and core; topographic maps)	○	○	○
b)	The physical state, movement, composition, and relative distribution of water on Earth	○	○	○
c)	Earth's atmosphere and the relative abundance of its main components	○	○	○
d)	Earth's water cycle (steps, role of sun's energy, circulation/renewal of fresh water)	○	○	○
e)	Processes in the rock cycle and the formation of igneous, metamorphic, and sedimentary rock	○	○	○
f)	Weather data/maps and changes in weather patterns (e.g., seasonal changes, effects of latitude, altitude, and geography)	○	○	○
g)	Geological processes occurring over millions of years (e.g., erosion, mountain building, plate movement)	○	○	○
h)	Formation of fossils and fossil fuels	○	○	○
i)	Environmental concerns (e.g., pollution, global warming, acid rain)	○	○	○
j)	Earth's resources (renewable/nonrenewable, conservation, waste management)	○	○	○
k)	Relationship of land management (e.g., pest control) to human use (e.g., farming)	○	○	○
l)	Supply and demand of fresh water resources	○	○	○
m)	Explanation of phenomena on Earth based on position/movement of bodies in the solar sytem and universe (e.g., day/night, tides, year, phases of the moon, eclipses, seasons, appearance of sun, moon, planets, and constellations)	○	○	○
n)	Physical features of Earth compared with the moon and other planets (e.g., atmosphere, temperature, water, distance from sun, period of revolution/rotation, ability to support life)	○	○	○

Computers in the TIMSS Class

21

A. Do students in the <TIMSS class> have computer(s) available to use during their science lessons?

	Yes	No
*Fill in **one** circle only*	○	○

*If **No**, please go to question* **23** →

B. Do any of the computer(s) have access to the Internet?

	Yes	No
*Fill in **one** circle only*	○	○

22

In teaching science to the <TIMSS class>, how often do you have students use a computer for the following activities?

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

	Every or almost every lesson	About half the lessons	Some lessons	Never
a) Do scientific procedures or experiments	○	○	○	○
b) Study natural phenomena through simulations	○	○	○	○
c) Practice skills and procedures	○	○	○	○
d) Look up ideas and information	○	○	○	○
e) Process and analyze data	○	○	○	○

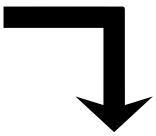
Homework

23

Do you assign science homework to the <TIMSS class>?

	Yes	No
*Fill in **one** circle only*	○	○

*If **No**, please go to question* **28**



24

How often do you usually assign science homework to the <TIMSS class>?

*Fill in **one** circle only*

- Every or almost every lesson ○
- About half the lessons ○
- Some lessons ○

25

When you assign science homework to the <TIMSS class>, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

*Fill in **one** circle only*

- Fewer than 15 minutes ○
- 15-30 minutes ○
- 31-60 minutes ○
- 61-90 minutes ○
- More than 90 minutes ○

26

How often do you assign the following kinds of science homework to the <TIMSS class>?

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

		Never or almost never	Sometimes	Always or almost always
a)	Doing problem/question sets	○	○	○
b)	Finding one or more applications of the content covered	○	○	○
c)	Reading from a textbook or supplementary materials	○	○	○
d)	Writing definitions or other short writing assignments	○	○	○
e)	Working on projects	○	○	○
f)	Working on small investigations or gathering data	○	○	○
g)	Preparing reports	○	○	○

27

How often do you do the following with the science homework assignments for the students in the <TIMSS class>?

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

		Never or almost never	Sometimes	Always or almost always
a)	Monitor whether or not the homework was completed	○	○	○
b)	Correct assignments and then give feedback to students	○	○	○
c)	Have students correct their own homework in class	○	○	○
d)	Use the homework as a basis for class discussion	○	○	○
e)	Use the homework to contribute towards students' grades or marks	○	○	○

28

How much emphasis do you place on the following sources to monitor students' progress in science?

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

		No emphasis	Little emphasis	Some emphasis	Major emphasis
a)	Classroom tests (for example, teacher made or textbook tests)	○	○	○	○
b)	National or regional achievement tests	○	○	○	○
c)	Your professional judgement	○	○	○	○

29

How often do you give a science test or examination to the <TIMSS class>?

*Fill in **one** circle only*

- About once a week ○
- About every two weeks ○
- About once a month ○
- A few times a year ○
- Never ○

*If **Never**, you have completed the questionnaire*

Thank You

for completing this questionnaire

30

What item formats do you typically use in your science tests or examinations?

*Fill in **one** circle only*

- Only constructed-response ○
- Mostly constructed-response ○
- About half constructed-response and half objective (e.g., multiple-choice) ○
- Mostly objective ○
- Only objective ○

31

How often do you include the following types of questions in your science tests or examinations?

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

		Never or almost never	Sometimes	Always or almost always
a)	Questions based on knowing facts and concepts	○	○	○
b)	Questions based on the application of knowledge and understanding	○	○	○
c)	Questions involving developing hypotheses and designing scientific investigations	○	○	○
d)	Questions requiring explanations or justifications	○	○	○

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Teacher Questionnaire

SCIENCE
<Grade 8>

Identification Label

School ID:

School Name:

Trends in International Mathematics and Science Study

TIMSS 2007

School Questionnaire

<Grade 8>

<TIMSS National Research Center Name>
<Address>

International Association for the Evaluation
of Educational Achievement

General Directions

Your school has agreed to participate in TIMSS 2007, a large international study of student learning in mathematics and science in more than 60 countries around the world. Sponsored by the International Association for the Evaluation of Educational Achievement (IEA), TIMSS (for Trends in International Mathematics and Science Study) is measuring trends in student achievement and studying differences in national education systems in order to help improve the teaching and learning of mathematics and science worldwide.

This questionnaire is addressed to school principals and department heads who are asked to supply information about their schools. Since your school has been selected as part of a nationwide sample, your responses are very important in helping to describe the school system in <country>.

It is important that you answer each question carefully so that the information provided reflects the situation in your school as accurately as possible. Some of the questions will require that you look up school records, so you may wish to arrange for the assistance of another staff member to help provide this information.

Please identify a time and place where you will be able to complete this questionnaire without being interrupted. This should require no more than 30 minutes. To make it as easy as possible for you to respond, most questions may be answered simply by filling in the appropriate circle.

Once you have completed the questionnaire, place it in the return envelope provided and return it to: <Country Specific Information>

Thank you very much for the time and effort you have put into responding to this questionnaire.

School Characteristics

1

A. What is the total school enrollment (number of students) in all grades?

*Number of students:*_____

B. What is the enrollment in the <eighth-grade>?

*Number of students:*_____

2

How many people live in the city, town, or area where your school is located?

*Fill in **one** circle only*

- More than 500,000 people ○
- 100,001 to 500,000 people ○
- 50,001 to 100,000 people ○
- 15,001 to 50,000 people ○
- 3,001 to 15,000 people ○
- 3,000 people or fewer ○

3

Approximately what percentage of students in your school have the following backgrounds?

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

	0 to 10%	11 to 25%	26 to 50%	More than 50%
a) Come from economically disadvantaged homes	○	○	○	○
b) Come from economically affluent homes	○	○	○	○

4

Approximately what percentage of students in your school have <language of test> as their native language?

*Fill in **one** circle only*

- More than 90% ○
- 76 to 90% ○
- 50 to 75% ○
- Less than 50% ○

5

For the <eighth-grade> students in your school:

A. How many days per year is your school open for instruction?

_____ *days*
(write in number)

B. What is the total instructional time, excluding breaks, in a typical day?

_____ *hours and* _____ *minutes*
(write in the number of hours and minutes)

C. In one calendar week, how many days is the school open for instruction?

*Fill in **one** circle only*

- 6 days ○
- 5 1/2 days ○
- 5 days ○
- 4 1/2 days ○
- 4 days ○
- Other ○

Please specify _____

Your Role as Principal

6

By the end of this school year, approximately what percentage of time in your role as principal will you have spent on these activities?

Write in the percent
The total should add to 100%

a) Administrative duties (e.g., hiring, budgeting, scheduling, meetings) ---------- _____%

b) Instructional leadership (e.g., developing curriculum and pedagogy) ---------- _____%

c) Supervising and evaluating teachers and other staff ---------- _____%

d) Teaching ---------- _____%

e) Public relations and fundraising ---- _____%

f) Other ---------- _____%

Total ---------- 100%

Parental Involvement

7

Does your school ask parents to do the following?

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

		Yes	No
a)	Attend special events (e.g., science fair, concert, sporting events)	○	○
b)	Raise funds for the school	○	○
c)	Volunteer for school projects, programs, and trips	○	○
d)	Ensure that their child completes his/her homework	○	○
e)	Serve on school committees (e.g., select school personnel, review school finances)	○	○

School Climate for Learning

8

How would you characterize each of the following within your school?

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

	Very high	High	Medium	Low	Very low
a) Teachers' job satisfaction	○	○	○	○	○
b) Teachers' understanding of the school's curricular goals	○	○	○	○	○
c) Teachers' degree of success in implementing the school's curriculum	○	○	○	○	○
d) Teachers' expectations for student achievement	○	○	○	○	○
e) Parental support for student achievement	○	○	○	○	○
f) Parental involvement in school activities	○	○	○	○	○
g) Students' regard for school property	○	○	○	○	○
h) Students' desire to do well in school	○	○	○	○	○

<Eighth-grade> Instruction in Mathematics and Science

9

Are <eighth-grade> students in your school grouped by ability for their mathematics classes?

	Yes	No
*Fill in **one** circle only*	○	○

10

Does your school do any of the following for students in the <eighth-grade>?

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

	Yes	No
a) Offer enrichment mathematics	○	○
b) Offer remedial mathematics	○	○

11

Are <eighth-grade> students in your school grouped by ability for their science classes?

	Yes	No
*Fill in **one** circle only*	○	○

12

Does your school do any of the following for students in the <eighth-grade>?

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

	Yes	No
a) Offer enrichment science	○	○
b) Offer remedial science	○	○

<Eighth-grade> Teachers in Your School

13

In the past two years, what percentage of your <eighth-grade> teachers have been involved in professional development opportunities for mathematics and science targeted at the following?

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

	None	25% or fewer	26 – 50%	51 –75%	76 – 100%
a) Supporting the implementation of the national or regional curriculum	○	○	○	○	○
b) Designing or supporting the school's own improvement goals	○	○	○	○	○
c) Improving content knowledge	○	○	○	○	○
d) Improving teaching skills	○	○	○	○	○
e) Using information and communication technology for educational purposes	○	○	○	○	○

14

In your school, are any of the following used to evaluate the practice of <eighth-grade> mathematics teachers?

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

	Yes	No
a) Observations by the principal or senior staff	○	○
b) Observations by inspectors or other persons external to the school	○	○
c) Student achievement	○	○
d) Teacher peer review	○	○

15

In your school, are any of the following used to evaluate the practice of <eighth-grade> science teachers?

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

	Yes	No
a) Observations by the principal or senior staff	○	○
b) Observations by inspectors or other persons external to the school	○	○
c) Student achievement	○	○
d) Teacher peer review	○	○

16

How difficult was it to fill <eighth-grade> teaching vacancies for this school year for the following subjects?

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

	Were no vacancies in this subject	Easy to fill vacancies	Somewhat difficult	Very difficult
a) Mathematics	○	○	○	○
b) Science	○	○	○	○
c) Computer science / information technology	○	○	○	○

17

Does your school currently use any incentives (e.g., pay, housing, signing bonus, smaller classes) to recruit or retain <eighth-grade> teachers in the following fields?

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

	Yes	No
a) Mathematics	○	○
b) Science	○	○
c) Other	○	○

Student Behavior

18

How often does each of the following problem behaviors occur among <eighth-grade> students in your school?

If the behavior occurs, how severe a problem does it present?

A. Frequency in your school

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

B. Severity of problem in your school

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

		Never	Rarely	Monthly	Weekly	Daily
a)	Arriving late at school	○	○	○	○	○
b)	Absenteeism (i.e., unjustified absences)	○	○	○	○	○
c)	Skipping class <hours/periods>	○	○	○	○	○
d)	Violating dress code	○	○	○	○	○
e)	Classroom disturbance	○	○	○	○	○
f)	Cheating	○	○	○	○	○
g)	Profanity	○	○	○	○	○
h)	Vandalism	○	○	○	○	○
i)	Theft	○	○	○	○	○
j)	Intimidation or verbal abuse of other students	○	○	○	○	○
k)	Physical injury to other students	○	○	○	○	○
l)	Intimidation or verbal abuse of teachers or staff	○	○	○	○	○
m)	Physical injury to teachers or staff	○	○	○	○	○

	Not a problem	Minor problem	Serious problem
a) Arriving late at school	○	○	○
b) Absenteeism (i.e., unjustified absences)	○	○	○
c) Skipping class <hours/periods>	○	○	○
d) Violating dress code	○	○	○
e) Classroom disturbance	○	○	○
f) Cheating	○	○	○
g) Profanity	○	○	○
h) Vandalism	○	○	○
i) Theft	○	○	○
j) Intimidation or verbal abuse of other students	○	○	○
k) Physical injury to other students	○	○	○
l) Intimidation or verbal abuse of teachers or staff	○	○	○
m) Physical injury to teachers or staff	○	○	○

19

Is your school's capacity to provide instruction affected by a shortage or inadequacy of any of the following?

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

		None	A little	Some	A lot
a)	Instructional materials (e.g., textbook)	○	○	○	○
b)	Budget for supplies (e.g., paper, pencils)	○	○	○	○
c)	School buildings and grounds	○	○	○	○
d)	Heating/cooling and lighting systems	○	○	○	○
e)	Instructional space (e.g., classrooms)	○	○	○	○
f)	Special equipment for handicapped students	○	○	○	○
g)	Computers for mathematics instruction	○	○	○	○
h)	Computer software for mathematics instruction	○	○	○	○
i)	Calculators for mathematics instruction	○	○	○	○
j)	Library materials relevant to mathematics instruction	○	○	○	○
k)	Audio-visual resources for mathematics instruction	○	○	○	○

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

		None	A little	Some	A lot
l)	Science laboratory equipment and materials	○	○	○	○
m)	Computers for science instruction	○	○	○	○
n)	Computer software for science instruction	○	○	○	○
o)	Calculators for science instruction	○	○	○	○
p)	Library materials relevant to science instruction	○	○	○	○
q)	Audio-visual resources for science instruction	○	○	○	○
r)	Teachers	○	○	○	○
s)	Computer support staff	○	○	○	○

20

A. Does your school have a science laboratory?

	Yes	No
*Fill in **one** circle only*	○	○

B. Do teachers usually have assistance available when students are conducting science experiments?

	Yes	No
*Fill in **one** circle only*	○	○

21

A. What is the total number of computers in your school that can be used for educational purposes by <eighth-grade> students?

*Number of computers:*_____

*If **None,** please go to question* **22**

B. How many of these computers have access to the Internet (e-mail or World Wide Web) for educational purposes?

*Fill in **one** circle only*

- All ○
- Most ○
- Some ○
- None ○

22

Is anyone available to help your teachers use information and communication technology for teaching and learning?

	Yes	No
*Fill in **one** circle only*	○	○

Thank You

for completing this questionnaire

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

School Questionnaire

<Grade 8>

TIMSS 2007 Mathematics Curriculum Questionnaire

Mathematics Curriculum and Instruction in Middle/Lower Secondary Schools

1. Does your country have a national curriculum that covers mathematics instruction at the eighth grade of formal 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 eighth grade of formal schooling?

If Yes…
Comments:

2. What is the grade-to-grade structure of the middle/lower secondary school curriculum that covers mathematics instruction (e.g., grades 1-8; grades 4-8; grades 6-8; grades 7-9)?

Comments:

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

Refers to the national curriculum that covers mathematics instruction at the eighth grade of formal 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 eighth grade of formal 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 eighth grade of formal 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 8 mathematics?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers mathematics instruction at the eighth grade of formal 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 8 mathematics?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers mathematics instruction at the eighth grade of formal 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----------	○	○	○	○
h) Deriving formal proofs----------	○	○	○	○

Refers to the national curriculum that covers mathematics instruction at the eighth grade of formal 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 8 students should have been taught each of the following topics or skills by the end of grade 8?

   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 8. 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., factorization in part A topic (a)), please explain in the comment field.

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
A. Number				
a) Whole numbers including place value, factorization, and the four operations----------	○	○	○	_____
b) Computations, estimations, or approximations involving whole numbers----------	○	○	○	_____
c) Common fractions including equivalent fractions and ordering of fractions----------	○	○	○	_____
d) Decimal including place value, ordering, and converting to common fractions (and vice versa)------	○	○	○	_____
e) Representing decimals and fractions using words, numbers, or models (including number lines)-------	○	○	○	_____

f) Computations with fractions--		_____
g) Computations with decimals--		_____
h) Representing, comparing, ordering, and computing with integers----------		_____
i) Ratios (equivalence, division of a quantity by a given ratio)-		_____
j) Conversion of percents to fractions or decimals and vice versa----------		_____

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

Comments:

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
B. Algebra				
a) Numeric, algebraic, and geometric patterns or sequences (extension, missing terms, generalization of patterns)----------	○	○	○	_____
b) Sums, products, and powers of expressions containing variables----------	○	○	○	_____
c) Evaluating expressions for given numeric value----------	○	○	○	_____
d) Simplifying or comparing algebraic expressions----------	○	○	○	_____
e) Modeling situations using expressions----------	○	○	○	_____
f) Evaluating functions/formulas for given values of the variables----------	○	○	○	_____
g) Simple linear equations and inequalities, and simultaneous (two variables) equations------	○	○	○	_____
h) Equivalent representations of functions as ordered pairs, tables, graphs, words, or equations----------	○	○	○	_____

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

Comments:

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
C. Geometry				
a) Angles – acute, right, straight, obtuse, reflex----------	○	○	○	_____
b) Relationships for angles at a point, angles on a line, vertically opposite angles, angles associated with a transversal cutting parallel lines, and perpendicularity----	○	○	○	_____
c) Properties of geometric shapes: triangles, quadrilaterals, and other common polygons----------	○	○	○	_____
d) Construct or draw triangles and rectangles of given dimensions----------	○	○	○	_____
e) Congruent figures (triangles, quadrilaterals) and their corresponding measures-------	○	○	○	_____
f) Similar triangles and recall their properties----------	○	○	○	_____
g) Relationships between two-dimensional and three-dimensional shapes----------	○	○	○	_____
h) Pythagorean theorem (not proof) to find length of a side	○	○	○	_____
i) Measurement, drawing, and estimation of the size of angles, the length of lines, areas, and volumes----------	○	○	○	_____

j) Measurement formulas for perimeters, circumferences, areas of circles, surface areas, and volumes----------		_____
k) Measures of irregular or compound areas (e.g., by covering with grids or dissecting and rearranging pieces)----------		_____
l) Cartesian plane – ordered pairs, equations, intercepts, intersections, and gradient-----		_____
m) Line and rotational symmetry for two-dimensional shapes---		_____
n) Translation, reflection, and rotation----------		_____

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

Comments:

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
D. Data and Chance				
a) Reading data from tables, pictographs, bar graphs, pie charts, and line graphs---------	○	○	○	_____
b) Organizing and displaying data using tables, pictographs, bar graphs, pie charts, and line graphs----------	○	○	○	_____
c) Characteristics of data sets including mean, median, range, and shape of distribution (in general terms)	○	○	○	_____
d) Interpreting data sets (e.g., draw conclusions, make predictions, and estimate values between and beyond given data points)----------	○	○	○	_____
e) Data display that could lead to misinterpretation (e.g., inappropriate grouping and misleading or distorted scales)----------	○	○	○	_____
f) Using data from experiments to predict chances of future outcomes----------	○	○	○	_____
g) Using the chances of a particular outcome to solve problems----------	○	○	○	_____

Refers to the national curriculum that covers mathematics instruction at the eighth grade of formal 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 eighth grade of formal 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 eighth grade of formal 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 eighth grade of formal schooling?

[ ] hours and [ ] minutes

b) What percentage of total instructional time is supposed to be devoted to **mathematics** instruction at the eighth grade of formal schooling?

[ ] % of total
Write in a number

Comments:

c) Is there a policy to assign mathematics homework at the eighth grade of formal schooling?

*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 eighth grade of formal schooling?

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
What is the policy?

If No…
Comments:

14. Which are the current requirements for being a middle/lower secondary 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 eighth grade.

Comments:

15. Is there a process to license or certify middle/lower secondary grade teachers?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the requirements encompassing eighth grade.

If Yes…
Who certifies/licenses middle/lower secondary 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 eighth-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 1998-1999?

   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 1998-1999? (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

TIMSS 2007 Science Curriculum Questionnaire

Science Curriculum and Instruction in Middle/Lower Secondary Schools

1. Does your country have a national curriculum that covers science instruction at the eighth grade of formal 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 science instruction at the eighth grade of formal schooling?

If Yes…
Comments:

2. What is the grade-to-grade structure of the middle/lower secondary school curriculum that covers science instruction (e.g., grades 1-8; grades 4-8; grades 6-8; grades 7-9)?

Comments:

3. By grade 8, are different science courses offered in separate subjects (e.g., biology, chemistry, physics, earth science)?

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
Please list the science subjects taught as separate courses and all grades in which they are taught, up to and including grade 8:

Subject	**Grades**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

If No…
Comments:

4. In what year was the current science curriculum introduced?

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

5. Is the science curriculum currently being revised?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

If Yes…
Please explain:

If No…
Comments:

6. What does the science 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 science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

7. Does the national curriculum contain statements/policies about the use of computers in grade 8 science?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the national curriculum that covers science instruction at the eighth grade of formal 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 science curriculum place on the following?

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

	None	Very Little	Some	A lot
a) Knowing basic science facts and principles----------	○	○	○	○
b) Observing natural phenomena and describing what is seen----------	○	○	○	○
c) Providing explanations about what is being studied----------	○	○	○	○
d) Designing and planning experiments or investigations----------	○	○	○	○
e) Conducting experiments or investigations----------	○	○	○	○
f) Integrating science with other subjects----------	○	○	○	○
g) Relating what students are learning to their daily lives----------	○	○	○	○
h) Incorporating the experiences of different ethnic/cultural groups-------	○	○	○	○

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

9. According to the national science curriculum, what proportion of grade 8 students should have been taught each of the following topics or skills by the end of grade 8?

   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 8. 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., heredity in part A topic (g)), please explain in the comment field.

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
A. Biology				
a) Classification of organisms on the basis of a variety of physical and behavioral characteristics----------	○	○	○	_____
b) Major organ systems in humans and other organisms--	○	○	○	_____
c) How the systems function to maintain stable bodily conditions----------	○	○	○	_____
d) Cell structures and functions--	○	○	○	_____
e) Photosynthesis and respiration (including substances used and produced) as processes of cells and organisms----------	○	○	○	_____
f) Life cycles of organisms, including humans, plants, birds, insects----------	○	○	○	_____

g) Reproduction (sexual and asexual), and heredity (passing on of traits, inherited versus acquired/learned characteristics)----------		_____
h) Role of variation and adaptation in survival/extinction of species in a changing environment----		_____
i) Interaction of living organisms in an ecosystem (energy flow, food chains and food webs, food pyramids, and the effects of change upon the system)----------		_____
j) Cycling of materials in nature (water, carbon/oxygen cycle, decomposition of organisms)		_____
k) Trends in human population and its effects on the environment----------		_____
l) Impact of natural hazards on humans, wildlife, and the environment----------		_____
m) Causes of common infectious diseases, methods of infection/transmission, prevention, and the body's natural resistance and healing capabilities----------		_____
n) Preventive medicine methods (diet, hygiene, exercise, and lifestyle)----------		_____

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
B. Chemistry				
a) Classification and composition of matter (physical and chemical properties, pure substances and mixtures, separation techniques)----------	○	○	○	_____
b) Particulate structure of matter (molecules, atoms, protons, neutrons, and electrons)-------	○	○	○	_____
c) Solutions (solvents, solutes, effect of temperature on solubility)----------	○	○	○	_____
d) Properties and uses of water (composition, melting/boiling points, changes in density/volume)----------	○	○	○	_____
e) Properties and uses of common acids and bases------	○	○	○	_____
f) Chemical change (transformation of reactants, evidence of chemical change, conservation of matter)--------	○	○	○	_____
g) Common oxidation reactions (combustion, rusting), the need for oxygen and the relative tendency of familiar substances to undergo these reactions----------	○	○	○	_____

h) Classification of familiar chemical transformations as releasing or absorbing heat/energy----------

_____

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

	Proportion of grade 8 students expected to be taught topic *Check **one** circle for each line.*			Grade(s) topic is expected to be taught K-12
C. Physics	**All or almost all students**	**Only the more able students (top track)**	**Not included in the curriculum through grade 8**	
a) Physical states and changes in matter (explanations of properties including volume, shape, density, and compressibility in terms of movement/distance between particles, conservation of mass during physical changes)----------	○	○	○	_____
b) Processes of melting, freezing, evaporation, and condensation (phase change; melting/boiling points; effects of pressure and purity of substances)----------	○	○	○	_____
c) Energy forms, transformations, heat and temperature, including heat transfer----------	○	○	○	_____
d) Temperature changes related to changes in volume and/or pressure and to changes in movement or speed of particles----------	○	○	○	_____
e) Basic properties/behavior of light (reflection, refraction, light and color, simple ray diagrams)----------	○	○	○	_____

f) Properties of sound (transmission through media, ways of describing sound (loudness, pitch, amplitude, frequency), relative speed)----		_____
g) Electric circuits (flow of current, types of circuits – parallel/series) and relationship between voltage and current----------		_____
h) Properties of permanent magnets and electromagnets--		_____
i) Forces and motion (types of forces, basic description of motion), use of distance/time graphs----------		_____
j) Effects of density and pressure----------		_____

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

	Proportion of grade 8 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 (top track)**	**Not included in the curriculum through grade 8**	
D. Earth Science				
a) Earth's structure and physical features (Earth's crust, mantle, and core; topographic maps)----------	○	○	○	_____
b) The physical state, movement, composition, and relative distribution of water on Earth-	○	○	○	_____
c) Earth's atmosphere and the relative abundance of its main components----------	○	○	○	_____
d) Earth's water cycle (steps, role of sun's energy, circulation/renewal of fresh water)----------	○	○	○	_____
e) Processes in the rock cycle and the formation of igneous, metamorphic, and sedimentary rock----------	○	○	○	_____
f) Weather data/maps and changes in weather patterns (e.g., seasonal changes, effects of latitude, altitude, and geography)----------	○	○	○	_____
g) Geological processes occurring over millions of years (e.g., erosion, mountain building, plate movement)----	○	○	○	_____
h) Formation of fossils and fossil fuels----------	○	○	○	_____

i) Environmental concerns (e.g., pollution, global warming, acid rain)----------		_____
j) Earth's resources (renewable/nonrenewable, conservation, waste management)----------		_____
k) Relationship of land management (e.g., pest control) to human use (e.g., farming)----------		_____
l) Supply and demand of fresh water resources----------		_____
m) Explanation of phenomena on Earth based on position/movement of bodies in the solar system and universe (e.g., day/night, tides, year, phases of the moon, eclipses, seasons, appearances of sun, moon, planets, and constellations)----		_____
n) Physical features of Earth compared with the moon and other planets (e.g., atmosphere, temperature, water, distance from sun, period of revolution/rotation, ability to support life)----------		_____

Refers to the national curriculum that covers science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

10. Which best describes how the science 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 science instruction at the eighth grade of formal schooling. If you do not have a national curriculum, please summarize for your state or provincial curricula.

Comments:

11. In what form is the science 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 science instruction at the eighth grade of formal 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 eighth grade of formal schooling?

[ ] hours and [ ] minutes

b) What percentage of total instructional time is supposed to be devoted to **science** instruction at the eighth grade of formal schooling?

[ ] % of total
Write in a number

Comments:

c) Is there a policy to assign science homework at the eighth grade of formal schooling?

*Check **one** circle only.*

Yes--- ○
No--- ○

If Yes…
What is the policy?

If No…
Comments:

13. Is there an official policy to provide remedial science instruction at the eighth grade of formal schooling?

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
What is the policy?

If No…
Comments:

14. Which are the current requirements for being a middle/lower secondary 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 eighth grade.

Comments:

15. Is there a process to license or certify middle/lower secondary grade teachers?

*Check **one** circle only.*

Yes--- ○

No--- ○

Refers to the requirements encompassing eighth grade.

If Yes…
Who certifies/licenses middle/lower secondary 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 science curriculum?

*Check **one** circle only.*

Yes--- ○

No--- ○

Comments:

17. How do practicing teachers get help to implement the science 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 science 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 science 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 eighth-grade students?

*Check **one** circle only.*

Yes--- ○

No--- ○

If Yes…
What is the policy?

If No…
Comments:

21. How is the science 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 science 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 science, and list the grades at which they are given:

If No…
Comments:

Addendum on Different Science Courses Offered for Students Tested in TIMSS 2007

If different science courses are offered in separate subjects, what percentage of total instructional time is supposed to be devoted to instruction in each science subject at the eighth grade of formal schooling?

(Please refer to question 12b)

Science Subject (e.g. biology, chemistry, physics, earth science)	**Percentage of Total** (Write in a number)
Biology	_____
Chemistry	_____
Physics	_____
Earth Science	_____

Comments:

_____

_____

_____

_____