CONFIDENTIALITY: ALL information collected in this study will be treated confidentially. At no time will you, other individuals, or your school be identified when reporting the results from this study.
Teacher Questionnaire

Your school has agreed to participate in TIMSS 2010/11 (Trends in International Mathematics and Science Study), an educational research project sponsored by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS measures trends in student achievement in mathematics and science and studies differences in national education systems in more than 60 countries in order to help improve teaching and learning worldwide.

New Zealand has been involved in TIMSS since 1994 and last implemented this study for Year 5 students, their teachers, and their schools in 2006.

This questionnaire is addressed to teachers of Year 5 students, and seeks information about teachers' academic and professional backgrounds, classroom resources, instructional practices, and attitudes toward teaching. Since your class has been selected as part of a nationwide sample, your responses are very important in helping to describe primary education in New Zealand.

Some of the questions in the questionnaire refer to the “TIMSS class” or “this class”. This is the class that is identified on the front of this booklet, and which will be tested as part of TIMSS in your school. We have also enclosed a copy of the student-teacher linkage form to help you identify these students. If you teach some but not all of the students in the TIMSS class, please think only of the students that you teach 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.

Since TIMSS is an international study and all countries are using the same questionnaire, you may find that some of the questions seem unusual or are not entirely relevant to you or schools in New Zealand. Nevertheless, it is important that you do your best to answer all of the questions so comparisons can be made across countries in the studies.

It is estimated that you will need approximately 45 minutes to complete this questionnaire. We appreciate the time and effort that this takes and thank you for your cooperation and contribution.

When you have completed the questionnaire, please return it to your TIMSS School Coordinator. The School Coordinator is responsible for returning the TIMSS materials back to us in Wellington.

Thank you.

The New Zealand TIMSS team: Robyn Caygill, Sarah Kirkham, and Jessica Herewini

TIMSS 2010/11
G1

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

_____________ years

*Please round to the nearest whole number.*

G2

Are you female or male?

Tick one circle only.

Female -- ☐

Male -- ☐

G3

How old are you?

Tick one circle only.

Under 25 -- ☐

25–29 -- ☐

30–39 -- ☐

40–49 -- ☐

50–59 -- ☐

60 or more -- ☐

G4

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

*Tick one circle only.*

Finished a College of Education diploma or other national or vocational diploma --- ☐

Finished a Bachelor's degree --- ☐

Finished a Bachelor's Honour's, Post-graduate diploma, or Master's degree --- ☐

Finished a PhD --- ☐

Other --- ☐

(please specify)

G5

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

*Tick one circle for each line.*

Yes

No

a) Education—Primary

b) Education—Secondary

c) Mathematics

d) Science

e) English

f) Other

(please describe)

B. If your major or main area of study was education, (that is, you answered yes to a or b above) did you have a specialisation in any of the following?

*Tick one circle for each line.*

Yes

No

a) Mathematics

b) Science

c) Language/reading

d) Other subject

(please describe)
About Your School

G6
How would you characterise each of the following within your school?

Tick one circle for each line.

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 at school

G7
Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

Tick one circle for each line.

Agree a lot

Agree a little

Disagree a little

Disagree a lot

a) This school is located in a safe neighbourhood

b) I feel safe at this school

c) This school’s security policies and practices are sufficient

d) The students are well behaved

e) The students are respectful of the teachers

G8
In your current school, how much of a problem is each of the following?

Tick one circle for each line.

Not a problem

Minor problem

Moderate problem

Serious problem

a) The school building needs significant repair

b) Classrooms are overcrowded

c) Teachers have too many teaching hours

d) Teachers do not have adequate workspace (e.g., for preparation, collaboration, or meeting with students)

e) Teachers do not have adequate instructional materials and supplies
G9

A. Do you use computers in your teaching in any of the following ways?

Tick one circle for each line.

Yes | No

a) For preparation

b) For administration

c) In your classroom instruction

If Yes to “classroom instruction”

B. How much do you agree with the following statements about using computers in your classroom instruction?

Tick one circle for each line.

Agree a lot | Agree a little | Disagree a little | Disagree a lot

a) I feel comfortable using computers in my teaching

b) When I have technical problems, I have ready access to computer support staff in my school

c) I receive adequate support for integrating computers in my teaching activities

G10

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

Tick one circle for each line.

Never or almost never | 2 or 3 times per month | 1–3 times per week | Daily or almost daily

a) Discuss how to teach a particular topic

b) Collaborate in planning and preparing instructional materials

c) Share what I have learned about my teaching experiences

d) Visit another classroom to learn more about teaching

e) Work together to try out new ideas
G11
How much do you agree with the following statements?

Tick one circle for each line.

Agree a lot
Agree a little
Disagree a little
Disagree a lot

a) I am content with my profession as a teacher
   ------------------

b) I am satisfied with being a teacher at this school
   ------------------

c) I had more enthusiasm when I began teaching than I have now
   ------------------

d) I do important work as a teacher
   ------------------

e) I plan to continue as a teacher for as long as I can
   ------------------

f) I am frustrated as a teacher
   ------------------

G12
A. How many students are in this class? (Note: ‘this class’ refers to the class containing the students on the enclosed student-teacher linkage form).

_________________ students
Write in the number.

B. How many of the students in this class are in Year 5?

_________________ Year 5 students
Write in the number.

G13
How many Year 5 students experience difficulties understanding spoken English?

_________________ students in this class
Write in the number.

G14
Which of the following subjects do you teach to at least some of the students in this class?

Tick one circle for each line.

Yes
No

a) I teach the class English/reading
   ------------------

b) I teach the class mathematics
   ------------------

c) I teach the class science
   ------------------
G15
How often do you do the following in teaching this class?

Tick one circle for each line.

<table>
<thead>
<tr>
<th>Every or almost every lesson</th>
<th>About half the lessons</th>
<th>Some lessons</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Summarise what students should have learned from the lesson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Relate the lesson to students' daily lives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Use questioning to elicit reasons and explanations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Encourage all students to improve their performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Praise students for good effort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Bring interesting materials to class</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

G16
In your view, to what extent do the following limit how you teach this class?

Tick one circle for each line.

<table>
<thead>
<tr>
<th>Not applicable</th>
<th>Not at all</th>
<th>Some</th>
<th>A lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Students lacking prerequisite knowledge or skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Students suffering from lack of basic nutrition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Students suffering from not enough sleep</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Students with special needs (e.g., physical disabilities, mental or emotional/psychological impairment)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Disruptive students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Uninterested students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
G17

For the typical student in this class, how often do you do these things?

Tick one circle for each line.

At least once a week

<table>
<thead>
<tr>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet or talk individually with the student’s parents to discuss his/her learning progress</td>
</tr>
<tr>
<td>a)</td>
</tr>
<tr>
<td>b) Send home a progress report on the student’s learning</td>
</tr>
</tbody>
</table>

- At least once a week
- Once or twice a month
- 4–6 times a year
- 1–3 times a year
- Never
M3

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

*Tick one circle for each line.*

<table>
<thead>
<tr>
<th>Every or almost every lesson</th>
<th>About half the lessons</th>
<th>Some lessons</th>
<th>Never</th>
</tr>
</thead>
</table>

a) Listen to me explain how to solve problems
b) Memorise rules, procedures, and facts
c) Work problems (individually or with peers) with my guidance
d) Work problems together in the whole class with direct guidance from me
e) Work problems (individually or with peers) while I am occupied by other tasks
f) Explain their answers
g) Relate what they are learning in mathematics to their daily lives
h) Take a written test or quiz

M2

In teaching mathematics to this class, how confident do you feel to do the following?

*Tick one circle for each line.*

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Somewhat confident</th>
<th>Not confident</th>
</tr>
</thead>
</table>
a) Answer students’ questions about mathematics
b) Show students a variety of problem solving strategies
c) Provide challenging tasks for capable students
d) Adapt my teaching to engage students’ interest
e) Help students appreciate the value of learning mathematics

M1

In a typical week, how much time do you spend teaching mathematics to the students in this class?

___________ hours and ___________ minutes per week

Write in the hours and minutes.
Questions M4–M6 ask about resources for teaching mathematics to the Year 5 students in the TIMSS class.

**M4**

When you teach mathematics to this class, how do you use the following resources?

*Tick one circle for each line.*

- **Basis for instruction**
  - Supplement
  - Not used

  a) Textbooks
  - [ ]
  - [ ]
  - [ ]

  b) Workbooks or worksheets
  - [ ]
  - [ ]
  - [ ]

  c) Concrete objects or materials that help students understand quantities or procedures
  - [ ]
  - [ ]
  - [ ]

  d) Computer software for mathematics instruction
  - [ ]
  - [ ]
  - [ ]

  e) The ‘Figure it Out’ series
  - [ ]
  - [ ]
  - [ ]

  f) Lesson plans from www.nzmaths.co.nz
  - [ ]
  - [ ]
  - [ ]

**M5**

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

*Tick one circle only.*

- Yes, with unrestricted use
  - [ ]

- Yes, with restricted use
  - [ ]

- No, calculators are not permitted
  - [ ]

**M6**

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

*Tick one circle only.*

- Yes --- [ ]

- No --- [ ]

(If No, go to question M7)

If Yes,

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

*Tick one circle only.*

- Yes --- [ ]

- No --- [ ]

C. How often do you have the students do the following computer activities during mathematics lessons?

*Tick one circle for each line.*

- Every or almost every day
  - [ ]
  - [ ]
  - [ ]

- Once or twice a week
  - [ ]
  - [ ]
  - [ ]

- Once or twice a month
  - [ ]
  - [ ]
  - [ ]

- Never or almost never
  - [ ]
  - [ ]
  - [ ]

  a) Explore mathematics principles and concepts
  - [ ]
  - [ ]
  - [ ]

  b) Practice skills and procedures
  - [ ]
  - [ ]
  - [ ]

  c) Look up ideas and information
  - [ ]
  - [ ]
  - [ ]
Mathematics Topics Taught

Questions M7–M8 ask about the topics taught and the content covered in teaching mathematics to the Year 5 students in the TIMSS class.

**M7**

The following list includes the main topics addressed by the TIMSS mathematics test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before Year 5, please choose “Mostly taught before this year.” 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.”

<table>
<thead>
<tr>
<th>Topic</th>
<th>Mostly taught before this year</th>
<th>Mostly taught this year</th>
<th>Not yet taught or just introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Concepts of whole numbers, including place value and ordering</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) Adding, subtracting, multiplying, and/or dividing with whole numbers</td>
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<td>☐</td>
</tr>
<tr>
<td>c) Concepts of fractions (fractions as parts of a whole or of a collection, or as a location on a number line; comparing and ordering fractions)</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Adding and subtracting with fractions</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) Concepts of decimals, including place value and ordering</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f) Adding and subtracting with decimals</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g) Number sentences (finding the missing number, modelling simple situations with number sentences)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h) Number patterns (extending number patterns and finding missing terms)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>B. Geometric Shapes and Measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Lines: measuring, estimating length of; parallel and perpendicular lines</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) Comparing and drawing angles</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Using informal coordinate systems to locate points in a plane (e.g., in square B4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Elementary properties of common geometric shapes</td>
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<td>☐</td>
</tr>
<tr>
<td>f) Relationships between two-dimensional and three-dimensional shapes</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g) Finding and estimating areas, perimeters, and volumes</td>
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<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>C. Data Display</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Reading data from tables, pictographs, bar graphs, or pie charts</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) Drawing conclusions from data displays</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Displaying data using tables, pictographs, and bar graphs</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Mathematics Content Coverage

M8

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

Write in the percentage for each.

a) Number and Algebra (includes computation with whole numbers, fractions, decimals and pre-algebraic concepts, including number patterns) ___________ %
b) Geometric Shapes and Measures (includes two- and three-dimensional shapes, length and area and volume) ___________ %
c) Data Display (includes reading, making, and interpreting tables and graphs) ___________ %
d) Other, _______________________________ ___ %

Total = 100%

B. At which level(s) of Mathematics and Statistics in the New Zealand Curriculum are most of the Year 5 students in the TIMSS class currently or have been working?

Tick one circle for each line.

Level 1

Level 2

Level 3

Level 4

a) Number and Algebra

b) Geometry and Measurement

c) Statistics

Mathematics Homework

M9

Question M9 asks about mathematics homework for the Year 5 students in the TIMSS class.

A. How often do you usually assign mathematics homework to the students in this class?

Tick one circle only.

I do not assign mathematics homework ---

(Go to question M10)

Less than once a week ---

1 or 2 times a week ---

3 or 4 times a week ---

Every day ---

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

Tick one circle only.

15 minutes or less ---

16–30 minutes ---

31–60 minutes ---

more than 60 minutes ---

C. How often do you do the following with the mathematics homework assignments for this class?

Tick one circle for each line.

Always or almost always

Sometimes

Never or almost never

a) Mark assignments and give feedback to students

b) Discuss the homework in class

c) Monitor whether or not the homework was completed
Mathematics Assessment

Question M10 asks about mathematics assessment for the Year 5 students in the TIMSS class.

M10

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

Tick one circle for each line.

<table>
<thead>
<tr>
<th>Source</th>
<th>Major emphasis</th>
<th>Some emphasis</th>
<th>Little or no emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Evaluation of students’ ongoing work</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>b) Classroom tests (for example, teacher-made or textbook tests)</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>c) National or regional achievement tests (for example P.A.T. tests)</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

Preparation to Teach Mathematics

M11

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

Tick one circle for each line.

Yes                       No

<table>
<thead>
<tr>
<th>Source</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Mathematics content</td>
<td></td>
</tr>
<tr>
<td>b) Mathematics pedagogy/instruction</td>
<td></td>
</tr>
<tr>
<td>c) Mathematics curriculum</td>
<td></td>
</tr>
<tr>
<td>d) Integrating information technology into mathematics</td>
<td></td>
</tr>
<tr>
<td>e) Mathematics assessment</td>
<td></td>
</tr>
<tr>
<td>f) Addressing individual students’ needs</td>
<td></td>
</tr>
</tbody>
</table>

B. Have you participated in any of the Numeracy Projects?

Tick one circle for each line.

Yes                       No

<table>
<thead>
<tr>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Early Numeracy Project (for Years 0-3)</td>
</tr>
<tr>
<td>If Yes, which calendar year did you begin? ____________</td>
</tr>
<tr>
<td>b) Advanced Numeracy Project (for Years 4-6)</td>
</tr>
<tr>
<td>If Yes, which calendar year did you begin? ____________</td>
</tr>
</tbody>
</table>
M12

How well prepared do you feel you are to teach the following mathematics topics? If a topic is not in the Year 5 curriculum or you are not responsible for teaching this topic, please choose “Not applicable.”

<table>
<thead>
<tr>
<th>Topic</th>
<th>Preparedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Number</td>
<td></td>
</tr>
<tr>
<td>a) Concepts of whole numbers, including place value and ordering</td>
<td></td>
</tr>
<tr>
<td>b) Adding, subtracting, multiplying and/or dividing with whole numbers</td>
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<td>B. Geometric Shapes and Measures</td>
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<td>a) Lines: measuring, estimating length of; parallel and perpendicular lines</td>
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<td>C. Data Display</td>
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<td></td>
</tr>
<tr>
<td>c) Displaying data using tables, pictographs, and bar graphs</td>
<td></td>
</tr>
</tbody>
</table>
Questions S1–S3 ask about science instruction for the Year 5 students in the TIMSS class. If you only teach this class mathematics, you have completed the questionnaire. If you teach science as part of a topic or theme, please continue and try your best to answer all questions.

S1

A. Is science taught mainly as a separate subject (i.e., not integrated with other subjects) to the students in this class?

Tick one circle only.

Yes ---
No ---

B. Please estimate the time that you spend on science topics with students in this class.

__________ hours and __________ minutes per week

Write in the hours and minutes.

S2

In teaching science to this class, how confident do you feel to do the following?

Tick one circle for each line.

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Somewhat confident</th>
<th>Not confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Answer students’ questions about science ------------------</td>
<td>○ ─ ─ ─</td>
<td>○ ─ ─ ─</td>
</tr>
<tr>
<td>b) Explain science concepts or principles by doing science experiments</td>
<td>○ ─ ─ ─</td>
<td>○ ─ ─ ─</td>
</tr>
<tr>
<td>c) Provide challenging tasks for capable students</td>
<td>○ ─ ─ ─</td>
<td>○ ─ ─ ─</td>
</tr>
<tr>
<td>d) Adapt my teaching to engage students’ interest</td>
<td>○ ─ ─ ─</td>
<td>○ ─ ─ ─</td>
</tr>
<tr>
<td>e) Help students appreciate the value of learning science</td>
<td>○ ─ ─ ─</td>
<td>○ ─ ─ ─</td>
</tr>
</tbody>
</table>
S3

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

Tick one circle for each line.

Every or almost every lesson
About half the lessons
Some lessons
Never

a) Observe natural phenomena such as the weather or a plant growing 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) Read their textbooks or other resource materials

f) Have students memorise facts and principles

g) Give explanations about something they are studying

h) Relate what they are learning in science to their daily lives

i) Do field work outside the class

j) Take a written test or quiz

S4

Questions S4–S5 ask about resources for teaching science to the Year 5 students in the TIMSS class.

When you teach science to this class, how do you use the following resources?

Tick one circle for each line.

Basis for instruction
Supplement
Not used

a) Textbooks

b) Workbooks or worksheets

c) Science equipment and materials

d) Computer software for science instruction

e) Reference materials (e.g., encyclopaedia, dictionary)
**55.**

**A. Do the students in this class have computer(s) available to use when you are teaching science?**

*Tick one circle only.*

- Yes --- □
- No --- □

(If No, go to question 56)

**If Yes,**

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

*Tick one circle only.*

- Yes --- □
- No --- □

**C. How often do you have the students do the following computer activities during science lessons?**

*Tick one circle for each line.*

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Practice skills and procedures</th>
<th>Look up ideas and information</th>
<th>Do scientific procedures or experiments</th>
<th>Study natural phenomena through simulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every or almost every day</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Once or twice a week</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Once or twice a month</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Never or almost never</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Questions S6–S7 ask about the topics taught and the content covered in teaching science to the Year 5 students in the TIMSS class.

The following list includes the main topics addressed by the TIMSS science test. Choose the response that best describes when the students in this class have been taught each topic. If a topic was in the curriculum before Year 5, please choose “Mostly taught before this year.” 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.”

### A. Life Science

- a) Major body structures and their functions in humans and other organisms (plants and animals)  
- b) Life cycles and reproduction in plants and animals  
- c) Physical features, behaviour, and survival of organisms living in different environments  
- d) Relationships in a given community (e.g., simple food chains, predator-prey relationships)  
- e) Changes in environments (effects of human activity, pollution and its prevention)  
- f) Human health (e.g., transmission/prevention of communicable diseases, signs of health/illness, diet, exercise)

### B. Physical Science

- a) States of matter (solids, liquids, gases) and differences in their physical properties (shape, volume), including changes in state of matter by heating and cooling  
- b) Classification of objects/materials based on physical properties (e.g., weight/mass, volume, magnetic attraction)  
- c) Forming and separating mixtures  
- d) Familiar changes in materials (e.g., decaying, burning, rusting, cooking)  
- e) Common energy sources/forms and their practical uses (e.g., the Sun, electricity, water, wind)  
- f) Light (e.g., sources, behaviour)  
- g) Electrical circuits and properties of magnets  
- h) Forces that cause objects to move (e.g., gravity, push/pull forces)

### C. Earth Science

- a) Water on Earth (location, types, and movement) and air (composition, proof of its existence, uses)  
- b) Common features of Earth's landscape (e.g., mountains, plains, rivers, deserts) and relationship to human use (e.g., farming, irrigation, land development)  
- c) Weather conditions from day to day or over the seasons  
- d) Fossils of animals and plants (age, location, formation)  
- e) Earth’s solar system (planets, Sun, moon)  
- f) Day, night, and shadows due to Earth’s rotation and its relationship to the Sun
Science Content Coverage

S7

A. By the end of this school year, approximately what percentage of teaching time for science will you have spent during this school year on each of the following science content areas for the students in this class?

Write in the percentage for each.

a) Life science (includes environmental issues) ---------------------------------- _____%

b) Physical science (includes topics in physics and chemistry) ------------------------ _____%

c) Earth science (includes Earth and the solar system) ---------------------------------------- _____%

d) Other, _______________________________ --- _____%  
(please specify)

Total = 100%

B. At which level(s) of Science in the New Zealand Curriculum are most of the students in the TIMSS class currently or have been working?

Tick one circle for each line.

Level 1

Level 2

Level 3

Level 4

a) Nature of science --------------------- ○ ○ ○ ○ ○

b) Living World ------------------------ ○ ○ ○ ○ ○

c) Planet Earth and Beyond --------------- ○ ○ ○ ○ ○

d) Physical World ---------------------- ○ ○ ○ ○ ○

e) Material World ---------------------- ○ ○ ○ ○ ○

Science Homework

Question S8 asks about science homework for the Year 5 students in the TIMSS class.

S8

A. How often do you usually assign science homework to the students in this class?

Tick one circle only.

I do not assign science homework --- ○

(Go to question S9)

Less than once a week --- ○

1 or 2 times a week --- ○

3 or 4 times a week --- ○

Every day --- ○

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

Tick one circle only.

15 minutes or less --- ○

16–30 minutes --- ○

31–60 minutes --- ○

more than 60 minutes --- ○

C. How often do you do the following with the science homework assignments for this class?

Tick one circle for each line.

Always or almost always

Sometimes

Never or almost never

a) Mark assignments and give feedback to students ----- ○ ○ ○ ○

b) Discuss the homework in class ------------------------- ○ ○ ○ ○

c) Monitor whether or not the homework was completed --- ○ ○ ○ ○
S9

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

Tick one circle for each line.

Major emphasis

Some emphasis

Little or no emphasis

a) Evaluation of students’ ongoing work

b) Classroom tests (e.g., teacher-made or textbook tests)

c) National or regional achievement tests

S10

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

Tick one circle for each line.

a) Science content
b) Science pedagogy/instruction
c) Science curriculum
d) Integrating information technology into science
e) Science assessment
f) Addressing individual students’ needs

Question S9 asks about science assessment for the Year 5 students in the TIMSS class.
How well prepared do you feel you are to teach the following science topics? 
If a topic is not in the Year 5 curriculum or you are not responsible for teaching this topic, please choose “Not applicable.”

**Tick one circle for each line.**

<table>
<thead>
<tr>
<th>Not applicable</th>
<th>Very well prepared</th>
<th>Somewhat prepared</th>
<th>Not well prepared</th>
</tr>
</thead>
</table>

### A. Life Science

- a) Major body structures and their functions in humans and other organisms (plants and animals)
- b) Life cycles and reproduction in plants and animals
- c) Physical features, behaviour, and survival of organisms living in different environments
- d) Relationships in a given community (e.g., simple food chains, predator-prey relationships)
- e) Changes in environments (effects of human activity, pollution and its prevention)
- f) Human health (e.g., transmission/prevention of communicable diseases, signs of health/illness, diet, exercise)

### B. Physical Science

- a) States of matter (solids, liquids, gases) and differences in their physical properties (shape, volume), including changes in state of matter by heating and cooling
- b) Classification of objects/materials based on physical properties (e.g., weight/mass, volume, magnetic attraction)
- c) Forming and separating mixtures
- d) Familiar changes in materials (e.g., decaying, burning, rusting, cooking)
- e) Common energy sources/forms and their practical uses (e.g., the Sun, electricity, water, wind)
- f) Light (e.g., sources, behaviour)
- g) Electrical circuits and properties of magnets
- h) Forces that cause objects to move (e.g., gravity, push/pull forces)

### C. Earth Science

- a) Water on Earth (location, types, and movement) and air (composition, proof of its existence, uses)
- b) Common features of Earth’s landscape (e.g., mountains, plains, rivers, deserts) and relationship to human use (e.g., farming, irrigation, land development)
- c) Weather conditions from day to day or over the seasons
- d) Fossils of animals and plants (age, location, formation)
- e) Earth’s solar system (planets, Sun, moon)
- f) Day, night, and shadows due to Earth’s rotation and its relationship to the Sun
Thank you for the thought, time, and effort you have put into completing this questionnaire.