

TEACHER QUESTIONNAIRE

Your school has been selected as one of more than 2 000 schools in Canada participating in the School Achievement Indicators Program (SAIP) in mathematics. This program is the only comprehensive assessment of achievement in Canada, and its results are important in determining how well students in various provinces and territories are doing and in deciding on curriculum change and other matters affecting mathematics teaching.

This questionnaire is addressed to the teachers of students who have been selected to write the mathematics tests. Please keep those students in mind when answering the questions. The questions relate to professional background, instructional practices, coverage of mathematics topics, the kinds of students you teach and attitudes toward teaching mathematics. Since your school is part of a national sample, your responses are very important in helping to describe mathematics teaching in Canada. It is therefore important that all questions be answered as carefully and accurately as possible.

This questionnaire is confidential when completed. Your responses will not be used in any way that will permit you, your students or your school to be identified.

Once you have completed this questionnaire, return it to your SAIP School Coordinator.

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

1 At which grade levels are you teaching mathematics this year?

(Darken all boxes that apply.)

Grade 6 or below

Grade 7 (1st Sec. – QC)

Grade 8 (2nd Sec. – QC)

Grade 9 (3rd Sec. – QC, Senior I – MB)

Grade 10 (4th Sec. – QC, Level I – NF, Senior II – MB)

Grade 11 (5th Sec. – QC, Level II – NF, Senior III – MB)

Grade 12 (CEGEP 1 – QC, Level III – NF, Senior IV – MB)

Post-Grade 12

2 How many hours per week are you scheduled to teach each of the following subjects? Please indicate whether the courses are taught over the full year or over a semester (half year).

Number of
hours/week

Semester course
(Darken if YES.)

Mathematics

Science

Other subjects

- 3 How many hours per week do you have scheduled for planning and preparation during regular school hours (times when classes are in session in your school)?

hours

- 4 What is the AVERAGE number of students in the mathematics classes you teach this year? students

What is your LARGEST mathematics class size? students

What is your SMALLEST mathematics class size? students

- 5 How many hours of scheduled class time does your school have per week?

hours

- 6 ON AVERAGE, how many hours per week do you spend on each of the following activities outside of formal school hours?

	Less				More
No	than	1-2	3-4	5-6	than
time	1 hr.	hrs.	hrs.	hrs.	6 hrs.

Planning and preparation

Marking student work

Administrative duties

Meetings

Routine tasks (e.g., record keeping, photocopying)

Professional development (e.g., courses, conferences, professional reading)

Working with students (e.g., coaching, clubs, tutoring)

Other professional activities related to your teaching

Planned parent conferences

Developing individual program plans in mathematics

- 7 ON AVERAGE, over a full school year, how many hours of your scheduled teaching time would you estimate are lost because of class cancellations, school closures, or other losses of whole class periods or school days?

hours

8 ON AVERAGE, how many minutes of each class period would you say are lost because of disruptions (e.g., late students, announcements, students looking for materials)?
minutes

9 Altogether, about how often do you meet with, or speak by telephone to, parents to discuss individual students?

Never

Once or twice a year

About every other month

About once a month

About once a week

Two or three times a week

More than five times a week

10 About what percentage of parents would you say you have contact with, over a full school year?

At regularly scheduled parent–teacher interviews %

At individual program planning team meetings %

At other times %

11 About how often do you meet with other teachers to plan lessons, units, or tests, or to discuss other program matters?

Never

Once or twice a year

About every other month

About once a month

About once a week

Two or three times a week

Almost every day

12 When planning mathematics lessons, to what extent do you use ...

Rarely A few A few Almost
or times times every

never a month a week class
your own previously prepared lessons?
materials prepared by other teachers or specialists?
student textbooks?
other textbooks or resource books?
teacher guides or teacher editions of textbooks?
provincial curriculum documents?
Internet or other computer-based sources?
evaluation materials?
media-generated materials?
other sources?

13 To what extent do you agree or disagree with each of the following statements?

Strongly Strongly
disagree Disagree Agree agree

Mathematics is primarily a deductive system.

Mathematics is primarily a process of solving problems.

Mathematics is primarily a computational system.

Mathematics is primarily a way of precisely describing the real world.

It is appropriate to use calculators in mathematics teaching from the earliest grades.

Calculators should be used in mathematics teaching only after students have mastered basic arithmetic facts and operations.

There are limits to what a teacher can accomplish because student ability has a large influence on achievement.

Students need natural talent to do well in mathematics courses.

Students need to work hard to do well in mathematics courses.

A student's home environment has greater influence on achievement than the school environment.

High school students should be streamed into different programs in mathematics based on their abilities.

14 How often do the following things happen in your mathematics classes?

Rarely A few A few Almost
or times times every
never a month a week class

I give overviews.

I model how to solve problems for students.

Students work on long-term mathematics projects.

I teach a variety of problem-solving strategies.

Students work in pairs or small groups.

Students work on assigned exercises from the textbook.

We discuss a coming quiz or test.

I give feedback to the class on assignments, tests or other evaluations.

Students use workbooks or worksheets.

I attempt to diagnose and address individual student problems or needs in learning.

Students study the textbook.

I read from or summarize the textbook.

I help students develop general learning strategies.

I work with students individually.

We discuss or do things other than the topic of the lesson.

I outline the outcomes expected to be achieved at the beginning of each unit/module.

15 How often are the following resources used in your mathematics classes?

Rarely	A few	A few	Almost	Not
or	times	times	every	avail-
never	a month	a week	class	able

Mathematics books and magazines

Computers

Instructional software for mathematics

Standard software such as spreadsheets

Measuring instruments such as metre sticks, protractors, compasses

Manipulative materials such as geo-boards, algebra tiles, fraction kits, mirrors

Calculators

Graphing calculators

Overhead projector

Slides, films, or videos

The Internet

A computer lab (separate from the classroom)

Experts within the community

16 How often are the following questioning techniques used in your mathematics classes?

Rarely	Once or	Several	Many
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or twice times times
never a class a class a class
I ask questions...

of individual students by name
to the class as a whole
specifically to students I feel are not paying attention
of the best students to make it more likely to get a good answer
of reticent students to help improve their participation
requiring brief responses (e.g., a word or phrase)
requiring more elaborated responses (e.g., a few sentences)
intended to stimulate a general discussion

Students ask questions...

requiring a brief response by the teacher
requiring an elaborated response by the teacher
requiring responses by other students
that stimulate general discussion

17 To what extent do the following present challenges to your ability to teach mathematics using a variety of strategies, approaches, assessment methods, etc.?

Not A Quite A great
at all little a lot deal

The range of student abilities in the class

Students who come from a wide variety of backgrounds (e.g., economic, language)

Students with special needs (e.g., cognitive or emotional disorders, physical disabilities)

Uninterested students

Disruptive students

Pressure from parents

Shortage of computer hardware or software

Shortage of materials or equipment

Inadequate physical facilities

Large class size

Low morale in the school

Concerns with personal safety or the safety of students

Inadequate resource material for lesson planning

Limits in my own background in the subject

Inadequate curriculum design

External examinations or standardized tests

Lack of in-service with respect to new curriculum

- 18 Starting on the next page is a list of statements that describe some things students might be expected to know or be able to do from their study of mathematics, as identified in the SAIP mathematics framework. Thinking of your students who are writing the SAIP test, please indicate, using the scale below, whether these items have been, or will be, taught this year, or whether you expect students to know these things before coming to your courses this year.

If you have students from several courses writing the SAIP test, please think of those in the LEAST advanced course or courses.

If you teach only one SAIP age group, please respond for that age group only.

If you teach both age groups, it would probably be useful to think about the same item for both groups before responding.

Scale for Responding to This Question

I expect this to have been taught in earlier years.

This topic is taught this year.

This topic is not introduced until later grades.

The student ... 13-year-olds 16-year-olds

uses the place value property of the decimal system of numeration for natural numbers smaller than 1 000.

multiplies two natural numbers smaller than 10.

demonstrates an understanding of the sense of the four basic arithmetic operations with natural numbers.

rounds a decimal to the nearest whole number.

uses concrete examples that illustrate the concept of fraction.

determines the lowest common multiple and the greatest common factor of a set of natural numbers.

rounds a number to any given degree that may vary from hundredths to millions.

translates and solves simple real-life problems involving ratios, proportions and percentages.

demonstrates an understanding of the concept of factor in a numerical context.

uses scientific notation to write very small and very large numbers.

uses expressions and performs calculations containing irrational numbers.

starting from concrete materials and representations, draws patterns in situations related to his/her domains of interest.

translates and solves two-step problems that are presented in the form of open sentences and that have solutions that are in the form of natural numbers or of decimals limited to hundredths.

produces appropriate tables of values for sequences and constant or linear functions.

factorizes algebraic expressions, using common factors, grouping in pairs and trinomial factor methods.

draws the Cartesian graph, determines the domain and range, and applies the properties of linear functions, quadratic functions, exponential functions, logarithmic functions and the three trigonometric functions of sine, cosine, and tangent.

estimates and measures lengths in metres, decimetres or centimetres.

demonstrates an understanding of the concept of symmetry in simple activities such as folding and the completion of drawings.

estimates and calculates areas in both conventional and non-conventional units.

develops and applies problem-solving strategies related to spatial relations.

describes, draws and classifies polygons and polyhedra according to certain of their properties.

reproduces plane figures by using the repetition of one of the plane geometric transformations of translation, rotation, reflection or similarity.

establishes relationships between SI units (including squared and cubic units).

solves problems derived from real-life situations involving area, circumference and diameter of a circle.

calculates arc and chord lengths, sector and segment areas, associated with a circle.

conducts trials of a simple experiment and lists the experimental outcomes (not necessarily all possible outcomes).

estimates and calculates the arithmetic mean of a set of data.

represents familiar situations in a data table or in various diagrams (pie graphs, bar graphs, stem-and-leaf plots, histograms, etc.).

calculates the experimental probability of a result in real-life activities and the results of random experiments.

represents and interprets a data distribution by an appropriate graphic.

calculates the theoretical probability of any single event.

calculates the weighted average of a data set.

describes the assumptions to be considered when drawing a sample.

translates and solves short problems requiring the use of a simple and obvious algorithm.

uses trial-and-error methods to find a single solution.

translates and solves problems requiring the selecting of an algorithm from algorithms familiar to the student.

solves multi-step problems using basic arithmetic operations on whole numbers less than 1 000 and solves single-step problems using a basic arithmetic operation on positive rational numbers.

without guidance, draws conclusions from data stated in tables with simple data treatment required to produce the conclusion.

uses schematic representations and symbolic representations in one real variable to generate solutions.

makes conclusions and predictions that require treatment of a data set.

uses symbolic representations in two real variables to generate solutions to particular problems.

draws conclusions requiring data treatment, makes simple inferences and makes basic intuitive predictions from data stated in table or diagram form.

uses symbolic representations in two real variables to generate solutions to families of problems.

identifies data that are missing and provides links between related data sets in order to draw conclusions and to make simple inferences from the data sets.

19 How often do you usually assign homework in your mathematics courses?

Never

Less than once a week

Once or twice a week

3 or 4 times a week

Every class

(If you do not assign homework, please go to Question 23.)

20 If you assign mathematics homework, how many minutes would you expect an average student to spend doing this work?

Less than 15 minutes

15–30 minutes

31–60 minutes

More than 60 minutes

21 How often do you assign each of the following tasks?

Rarely A few A few Almost
or times times every
never a month a week class

Worksheet or workbook

Problems/questions in textbook

Reading in text or supplementary materials

Writing definitions or other short writing assignment

Working individually on long-term projects

Working in groups on long-term projects

Preparing oral reports

Keeping a journal

22 If you assign written homework, how often do you do the following?

Rarely A few A few Almost
or times times every
never a month a week class

Record whether or not the homework is completed

Collect, correct and keep assignments

Collect, correct and return assignments to students

Give feedback on homework to whole class

Have students correct their own homework in class

Have students exchange assignments and correct them in class

Use homework to contribute towards students' grades or marks

23 In assessing the work of students in your mathematics courses, how much weight do you give each of the following?

 A Quite A great
None little a lot deal

Standardized tests produced outside the school

Teacher-made short-answer or essay tests that require students to explain their reasoning

Teacher-made multiple-choice, true-false, or matching tests

Homework assignments

Projects

Portfolios of student work

Observations or interviews of students

Attendance in class

Participation of students in class activities

Effort

Improvement over the year or term

Student self-assessment

Peer evaluation

Independent study projects

Other

24 ON AVERAGE, how many scores or grades do you use in computing final marks for your mathematics students?

One to four

Five to nine

Ten to fourteen

Fifteen or more

25 Are you female or male?

Female

Male

26 Counting this year, how many years of teaching experience do you have in total?
years

27 Counting this year, how many years of teaching experience have you had...

in your current school? years

in the province or territory in which you are now located? years

teaching 13-year-old students? years

teaching 16-year-old students? years

teaching mathematics? years

28 Which of the following degrees or diplomas do you hold?

(Darken all boxes that apply.)

B.A., B.Sc., or equivalent in mathematics

B.Sc. or equivalent in a subject other than mathematics

B.A. or equivalent in a subject other than mathematics

Other degree with substantial mathematics content (e.g., engineering, computer science)

B.Ed. or equivalent (e.g., at least one year of teacher training)

Special Education diploma/certificate

Special Education degree

Trade or technical diploma or equivalent

- Master's degree in education
- Master's degree in another subject
- Ph.D. or equivalent
- Other degree or diploma
- No degree or diploma

29 How many full-year equivalent university courses have you taken in mathematics? (A semester course is equivalent to one-half a full-year course. Please convert other courses to full-year equivalents.)

courses

Thank you again for taking time from your busy schedule
to complete this questionnaire.