FOR THE TEACHER

Strategies to Achieve Mathematics Success (STAMS) provides essential instruction in key mathematics strategies. The series is the instructional piece of the mathematics system that includes the ***Comprehensive Assessment of Mathematics Strategies (CAMS)*** diagnostic series, and the ***Comprehensive Assessment of Mathematics Strategies II (CAMS II)*** assessment series. Diagnose with ***CAMS***, teach with ***STAMS*** and assess with ***CAMS II***. Used alone or as part of the system, ***STAMS*** provides precise instruction in and practice of the strategies students need to master in order to achieve mathematics success in years 2 to 9.

In ***STAMS Book 3,*** students receive step-by-step instruction in 12 mathematics strategies:

- number sense
- estimation
- addition
- subtraction
- multiplication
- division
- time and money
- working with measurements
- algebra
- shape
- probability and averages
- interpreting data.

Each of the strategy lessons focuses on one specific mathematics area. Teaching sequences use metacognition to lead students to understandings about the mathematics concepts.

The content of the student book is based on themes encountered in students' everyday experiences and in their reading materials. Solving the word problems may require use of information found in the following kinds of formats:

- recipes
- instructions
- games
- maps
- charts
- graphs
- schedules
- calendars
- illustrations
- sport articles
- science articles
- news stories
- biographies
- emails
- social studies articles
- letters
- interviews
- narratives.

What is in the student book?

Each student book contains:

- 12 strategy lessons (8 strategy lessons in Book 1)
  Each lesson provides instruction and practice in a specific mathematics area. Students use information found in the context of a theme-based reading passage and/or graphic to answer questions that focus on the target mathematics strategy.
- 4 review lessons
  A review lesson follows every three strategy lessons. (Every two strategy lessons in Book 1.) Students use information found in the context of two reading passages and/or graphics to answer 12 selected-response questions that focus on the target mathematics strategies in the three previous lessons.
- 1 final review.
  The final review gives practice in the mathematics areas presented in the strategy lessons. Students use information from reading passages and/or graphics to answer questions that focus on the target mathematics strategies presented in the book.

What is in the teacher guide?

Each teacher guide contains

- suggestions and instructional guidelines for using the ***STAMS*** series in the classroom
- a section entitled Know your strategies.
- a blank answer form for students to record their answers
- a completed answer form for correction of student forms.

Where do students record their answers?

Students can record their answers on the answer form in the teacher guide. Students may also record their answers directly in the student book.

What is the correction procedure?

For best results, correct each strategy lesson orally with students immediately following its completion. Explain concepts that students do not seem to understand. Encourage students to participate in a discussion about the targeted strategy and how to apply it.

When should I begin using the *STAMS Series* in the classroom?

STAMS should be initiated after an assessment of mathematics has been administered to students and analysed by a teacher. ***CAMS*** provides the diagnostic portion of the mathematics system, and is designed specifically for making such a strategy-based assessment. Students may be assigned specific strategy

lessons to remediate areas that need improvement and reinforcement, based on the results of the ***CAMS*** assessment. Or, you may have students complete the entire ***STAMS*** student book in order to build basic knowledge of mathematics strategies. This is recommended when students have gaps in their mathematics learning.

Know your strategies is a useful tool for explaining each of the mathematics strategies and for instructing students in how to answer a strategy-based question.

How do I use *STAMS* effectively in the classroom?

STAMS is designed for flexibility in the classroom and can be used effectively in several ways, according to your classroom needs. The instructional portion of each strategy lesson should be presented to students as a teaching lesson. Peer learning is encouraged. Students should complete the review questions independently; the reasons why answers are correct or incorrect should be corrected as a classroom activity. All other sections of each strategy lesson should be completed independently by students.

How can I assess mastery of the strategies in the *STAMS Series*?

The ***Comprehensive Assessment of Mathematics Strategies II (CAMS II)*** dovetails with the strategies presented in the ***CAMS*** and ***STAMS*** programs. ***CAMS II*** is designed to assess mastery of the strategies that were taught in the ***STAMS*** program.

Number

Number sense

You use **number sense** when you think about the place value of each digit in a number. You also use number sense to understand whether a number is even or odd.

- Each digit in a number has a place value, such as ones, tens, hundreds or thousands. The value of a digit depends on its place in a number.
- Even numbers have the digit 0, 2, 4, 6 or 8 in the ones place. Odd numbers have the digit 1, 3, 5, 7 or 9 in the ones place.
- A number can be written in digits or in words.

Estimation

You use **estimation** to find a number that is close to another number. You also use estimation to check if a sum of numbers makes sense.

- To round a number, find its nearest ten, hundred, thousand or ten thousand.
- To estimate a sum, first round the numbers you are adding. Then add the rounded numbers to get the estimate of their sum.

Addition

You use **addition** to find the sum of two or more addends.

- Write addends in any order and get the same sum.
- Use tens to find the sum.
- When adding three or more numbers, group addends in different ways and get the same sum.

Subtraction

You use **subtraction** to find the difference between two numbers.

- Write numbers in a subtraction problem in a row or in a column.
- Count back from the larger number to find the difference.

Multiplication

You use **multiplication** to find the product of two factors.

- To help find a product, write a repeated addition sentence for the problem. Then write a multiplication sentence for the same problem.
- Changing the order of the factors does not change the product.

Division

You use **division** to find a quotient.

- To divide, separate a number into equal amounts.
- Use multiplication facts to help find a quotient.

Algebra

You use **algebra** when you find patterns.

- Patterns are like rules.
- Use patterns to find missing numbers or figures.

Measurement

Time and money

You use a clock to tell **time** and to tell how much time has gone by.

- Look at the shorter hand on the clock to tell the hour. Look at the longer hand to tell how many minutes there are after or before an hour.
- Count by 1s to find how many hours have gone by. Skip-count by 5s to find how many minutes have gone by.
- To add times, change each 60 minutes to 1 hour. Add all the hours. Then add all the minutes.
- Use a.m. to show morning time. Use p.m. to show afternoon and evening time.