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 7,*** 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

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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.

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Number

Number sense

You use **number sense** when you think about the place value of each digit in a number.

- 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 the number.
- Whole numbers and decimals can be expressed in various forms.
- A number can be expressed in exponential form. An exponent tells how many times the base should be multiplied by itself.
- A number may be written in digits or in words.

Estimation

You use **estimation** to find a number that is close to another number.

- Numbers can be rounded to the nearest ten, hundred, thousand, ten thousand, hundred thousand and so forth. A decimal can be rounded to the nearest tenth or nearest whole number.
- A time measurement can be rounded to the nearest hour or nearest minute.

Addition

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

- Put addends in any order and get the same sum.
- When writing addends, line up the place values. When addends are decimals, line up decimal points. When addends include both decimals and whole numbers, add a decimal point and zeroes to each whole number.
- When adding decimals that do not have matching place values, put one or more zeroes to the right of the decimal point so as to line up place values correctly.
- Add columns of addends from right to left. Regroup, if necessary. If the sum is a decimal, place the decimal point to the left of the tenths place.

Subtraction

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

- When writing numbers in a subtraction problem, line up the numbers according to their place values.
- When subtracting decimals or money, line up the decimal points.
- Subtract from right to left. Regroup, if necessary. If the difference is a decimal, write the decimal point to the left of the tenths place.

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