Math in Focus
Singapore Math
by Marshall Cavendish

Family Letters and Activities

Dear Family,

Welcome to a new school year of making connections in mathematics with *Math in Focus®: The Singapore Approach by Marshall Cavendish. Math in Focus®* is the world-class mathematics curriculum from Singapore adapted for U.S. classrooms.
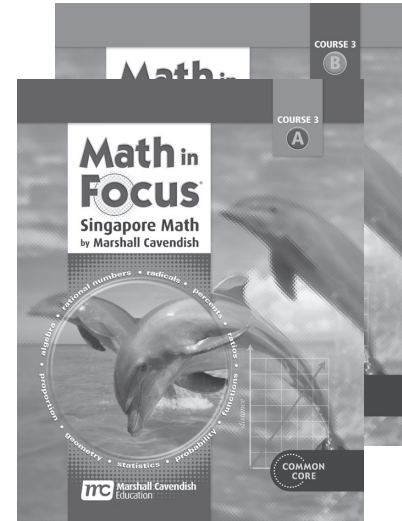
In class your student will learn math concepts presented in an engaging format and practice them to develop deep understanding. Your student will also work with his or her classmates to solve problems, participate in learning activities and games, and discuss their results.

Your student will be assigned pages from the Student Book to work on in class or at home. Assignments in the Student Book will include:

- **Practice** problems to help reinforce the math concepts and skills of the lesson

- **Brain @ Work** problems which will broaden your student's thinking skills and extend his or her understanding

Math in Focus® addresses topics in greater depth at each grade. Here are some of the topics your student will focus on this year:

- using the properties of exponents to simplify expressions

- writing numbers in scientific notation

- solving equations, including systems of equations

- working with linear functions

- solving problems using the Pythagorean Theorem

- using geometric transformations

- working with congruent and similar figures

- finding probabilities

Family Letters and Activities

Chapter 1 Exponents

Dear Family,

In this chapter, your student will learn about expressions involving exponents. Some of the skills your student will practice:

- understanding exponential notation
- writing the prime factorization of a number
- using properties of exponents, such as the product of powers property and the quotient of powers property
- simplifying expressions with zero and negative exponents
- solving real-world problems involving exponents

Activity

Simplifying expressions containing zero and negative exponents is a skill that students will use in many math and science classes. You can help your student practice this skill with the following activity.

- Write the integers –3, –2, –1, 0, 1, 2, and 3 on a set of small index cards or pieces of paper. Write the integers from 1 to 10 on a set of larger cards or pieces of paper.
- Shuffle each set of cards separately. With your student, select one large card and one small card at random. Use the number on the large card as the base, and the number on the smaller card as the exponent.
- Repeat the process with several more pairs of cards.

Vocabulary to Practice

The number 125 can be written in **exponential notation** as 5^3. This expression can be read "5 to the **power** of 3." The base is 5 and the **exponent** is 3.

To find the **prime factorization** of a number, write the number as a product of its prime factors.

Any nonzero number raised to the **power zero** is 1. (If $a \neq 0$, then $a^0 = 1$.)

A nonzero number with a **negative exponent** is the reciprocal of the power with the positive exponent. (If $a \neq 0$, then $a^{-n} = \frac{1}{a^n}$.)

Online Resources

For additional Parent Resources my.hrw.com

Practicing at home is a good way for your student to develop skills and strategies in mathematics. Throughout the year, I will send home letters that describe the math we are working on at school. In addition to descriptions of math skills and vocabulary, the letters contain activities that you and your student can work on together.

In addition, you can take advantage of opportunities to use math in everyday situations. Allow your student's math class-work or homework to help you determine the topic and the appropriate level of challenge.

While reading news sources, challenge your student to:

- look for very large or very small numbers and express them in scientific notation

- find examples of estimates or projections, and discuss how they may have been made with linear equations

At home or while traveling, ask your student to:

- identify geometric transformations in patterns in fabrics, flooring, or wallpaper
- look for right triangles and find the lengths of their sides
- identify congruent or similar figures in the design of buildings or other structures
- look for lines and estimate their slopes
- describe how far you have traveled as a function of your speed
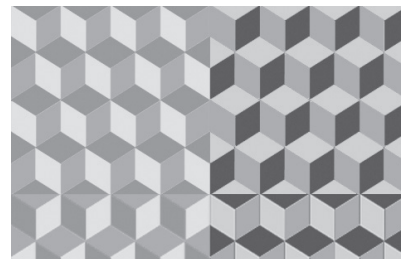
I look forward to working with your student and you this year.

Please contact me if you have any questions about the program or about your student's progress.