

Dear Family,

The first unit in your child's mathematics class this year is ***Thinking With Mathematical Models: Linear and Inverse Variation***. In previous mathematics work, your child has studied some of the basic concepts of algebra. In this unit, we will be exploring a variety of situations that can be represented with different mathematical models.

UNIT GOALS

This first unit in eighth grade has been designed to review and extend student understanding and skill in work with linear functions and to introduce concepts associated with non-linear functions.

When algebraic expressions are used to represent patterns in data, the resulting functions are called *mathematical models* of the relationships. The functions can then be used to write and solve equations that provide estimates of answers to questions about the relationships. One of the central goals of this unit is to develop student understanding and skill in this aspect of the modeling process.

HELPING WITH HOMEWORK

The overall goal of *Connected Mathematics* is to help students develop sound mathematical habits. As your child studies this unit, you can help with homework, and at the same time encourage sound mathematical habits by asking questions such as:

- What are the key variables in this selection?
- What is the pattern relating the variables that are involved? Is it linear?
- What kind of equation will express the relationship among variables?
- How can the equation relating variables be used to answer questions about the relationship?

In your child's notebook, you can find worked-out examples from problems done in class, notes on the mathematics of the unit, and descriptions of the vocabulary words.

HAVING CONVERSATIONS ABOUT THE MATHEMATICS IN THINKING WITH MATHEMATICAL MODELS

You can help your child in several ways:

- Have your child share his or her mathematics notebook with you, showing you what has been recorded. Ask your child to explain why these ideas are important.
- Talk about situations in which data might be collected to help represent the situations with mathematical models such as tables and graphs.
- Look over your child's homework and make sure that all questions are answered and that explanations are clear.

A few important mathematical ideas that your child will learn in *Thinking with Mathematical Models* are given on the back. As always, if you have any questions or concerns about this unit or your child's progress in the class, please feel free to call.

Sincerely,