



The mathematics standards in the elementary years focus on number and operations. Ideas from measurement and geometry help students learn about numbers and quantities. In each grade, students make sense of problems, explain their thinking, and describe their world with mathematics.

#### Expectations for 5th Grade Students:

- **Number and Quantity:** Fluently (consistently) multiply multi-digit whole numbers; extend the idea of place value to decimals; begin to divide using multi-digit divisors (fluency isn't expected until sixth grade); multiply fractions; add and subtract fractions by creating equivalent fractions ( $1/2$  is the same as  $2/4$ ); understand the relationship between fractions and division ( $2/5$  means  $2 \div 5$ ); solve simple word problems involving the division of fractions with pictures (the formal procedure for dividing fractions is taught in sixth grade).
- **Algebra and Function:** Write and interpret numerical expressions.
- **Data, Statistics, and Probability:** Convert within the metric system; find the volumes of rectangular prisms using multiplication.
- **Geometry:** Graph points on a grid using positive numbers.

#### Throughout 5th Grade You May Find Students:

- Exploring patterns (using a calculator) that occur when multiplying by powers of ten (10, 100,  $1/10$ ,  $1/100$ ).
- Making connections between whole numbers and decimals.
- Playing with money to explore how to add and subtract numbers involving decimals.
- Solving fair share problems (3 submarine sandwiches fairly shared among 4 people) to explore the relationship between fractions and division.
- Drawing pictures to solve simple word problems involving the division of fractions by whole numbers and whole numbers by fractions.
- Filling boxes with cubes to explore the concept of volume and its connection to area.
- Exploring how to find the volume of objects that can be broken into several rectangular boxes.
- Playing games involving coordinates-location on a grid ("Battleship").