



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 4th Grade Students:

- **Number and Quantity:** Extend the concept of multiplication to multiplying a fraction by whole number through the idea of scaling (the picture is 3 times the original size versus the picture is $\frac{1}{3}$ times the original size); compare and contrast simple addition and subtraction of fractions to whole number addition and subtraction; compare the size of fractions; solve simple multi-digit multiplication and division problems by making connections to place value.
- **Algebra and Functions:** Fluently (consistently) add and subtract multi-digit numbers; generate and analyze patterns involving multiplication and division.
- **Data, Statistics, and Probability:** Solve word problems involving measurements including simple conversions from one unit to another; create bar graphs from measurement data.
- **Geometry:** Find the measure of angles; classify shapes based on lines and angles.

Throughout 4th Grade You May Find Students:

- Adding and subtracting large numbers with ease using place value.
- Explaining the connection between addition and subtraction.
- Solving multi-digit multiplication and division problems.
- Solving word problems about the addition and subtraction of fractions.
- Explaining what it means when something is one-half or one-third times the original size ($\frac{1}{2} \times 1$; $\frac{1}{3} \times 1$) versus three times the original size of an object (3×1).
- Describing turns with angle measurements ("He just did a 180 on his skateboard").
- Exploring what happens when you measure an item in inches versus feet and vice versa.