

# Math Expectations for 3<sup>rd</sup> Grade

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In 3<sup>rd</sup> grade, your child will learn important new ideas and gain important new skills. One of the most important topics this year is multiplication and division. Another is fractions. Multiplication, division, and fractions are the building blocks for many life skills that students will learn in later grades, such as percentages. Students also need to master these topics to be ready for algebra and advanced math, so it is essential to get a good start with these in 3<sup>rd</sup> grade.

## **Operations and Algebraic Thinking**

By the end of third grade your student should be able to:

- ✓ Represent and identify a multiplication problem that matches a group of objects
- ✓ Represent and identify a division problem that matches a group of objects
- ✓ Use multiplication and division to solve word problems
- ✓ Determine the unknown number in a multiplication or division equation
- ✓ Apply properties of operations to multiply and divide using the
  - Commutative Property
  - Associative Property
  - Distributive Property
- ✓ Use multiplication to find the quotient of a division problem
- ✓ Memorize multiplication facts 0 – 9
- ✓ Represent two-step problems using a letter for the unknown
- ✓ Identify and explain patterns in math

## **Number and Operations in Base Ten**

By the end of third grade your student should be able to:

- ✓ Round numbers to the nearest 10 or 100
- ✓ Add and subtract within 1,000
- ✓ Multiply one-digit whole numbers by multiples of 10
- ✓ Identify equal parts of a whole as a fraction
- ✓ Represent a fraction on a number line
- ✓ Represent the fractions one half, one third, one fourth, one sixth, and one eighth on a number line
- ✓ Represent any fraction with the denominators 2, 3, 4, 6, and 8 on a number line
- ✓ Compare fractions by their size
- ✓ Find two fractions that are equivalent
- ✓ Explain why fractions are equivalent using a model
- ✓ Represent a whole number as a fraction
- ✓ Compare two fractions with the same numerator or denominator ( $<$ ,  $>$ ,  $=$ )
- ✓ Represent a whole number as a fraction

### **Measurement and Data**

By the end of third grade your student should be able to:

- ✓ Tell and write time to the nearest minute
- ✓ Solve word problems involving time
- ✓ Measure and estimate liquid volume and mass of objects using standard and metric units
- ✓ Add, subtract, multiply, or divide to solve one-step word problems involving liquid volume or mass
- ✓ Draw a picture graph or bar graph
- ✓ Solve one and two-step problems using information from a graph
- ✓ Gather data by measuring lengths using a ruler and showing the data on a line plot
- ✓ Measure the area of a plane figure using square units without gaps or overlaps
- ✓ Measure areas by counting square units
- ✓ Relate area to multiplication and addition
- ✓ Use multiplication and addition to find the area
- ✓ Solve real-world word problems involving area
- ✓ Use the distributive property to find the area of a rectangle
- ✓ Find the area of two rectangles of different sizes and add to find the total area of a complex figure
- ✓ Find the perimeter of polygons

### **Geometry**

By the end of third grade your student should be able to:

- ✓ Identify the attributes of shapes and group shapes into larger categories
- ✓ Separate a shape into parts with equal areas and represent the parts as a fraction