

Fourth Grade Mathematics Third Nine Weeks

Dear Parents:

The objectives listed below will be covered in the 3rd Nine Weeks Unit of study in math.

Multistep Problem Solving and Algebraic Thinking

Generate and analyze patterns

- Solve multistep word problems posed with whole numbers using the four operations, including problems with remainders. Represent these problems using equations with a letter standing for the unknown quantity. Check for reasonableness of answers using mental computation and estimation strategies including rounding.
- Generate and identify number or shape patterns that follow a given rule.

Fractions

- Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions
- Compare two fractions with different numerators and different denominators.
- Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $62/100$; describe a length as 0.62 meters; locate 0.62 on a number line diagram Compare two decimals to hundredths by reasoning about their size.

Geometry and Angle Measurement

- Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
- Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
- Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.
- Measure angles in whole-number degrees using a protractor. Sketch angles of a specified measure.
- Recognize angle measure as additive. Solve addition and subtraction problems to find unknown angle measure.

Here are some suggestions as to what you can do at home to help your child:

- To practice problem solving skills, use a map with a distance key to plan a simple route to an interesting location or vacation site. Estimate the distance to the destination using the map. Estimate how long it will take to travel each way at an average speed of 50 miles per hour. Plan a travel budget including the cost of a motel, meals, admissions and souvenirs.
- Use grocery store adds to compare the prices of items at two different stores. Based on the comparison, decide which one is a better buy. For example, if peanut butter costs \$2.73 at one store and \$2.37 at another, which is a better buy?
- Collect example of fractions from books, magazines and newspapers. You can find many examples in recipes, business listings, and craft instructions. When you find a fraction, add it to a chart with columns labeled: less than $\frac{1}{2}$; between $\frac{1}{2}$ and 1; greater than 1. Ask your child to explain how he or she knew where to put each fraction in the chart.
- Compare fractions with different numerators and different denominators. Have your child put them in order from least to greatest.
- Renaming Game
 - Step 1** Begin by stating a fraction, such as $\frac{1}{3}$.
 - Step 2** Take turns naming equivalent fractions ($\frac{2}{6}$, $\frac{3}{9}$ and so on).
 - Step 3** When neither player can think of an equivalent fraction, start again with a new fraction.
- Students need to make connections between fractions and decimals. They should be able to write decimals for fractions with denominators of 10 or 100. Have students say the fraction with denominators of 10 and 100 aloud. For example $\frac{4}{10}$ would "four tenths" or $\frac{27}{100}$ would be "twenty-seven hundredths." Also, have students represent decimals in word form with digits and the decimal place value, such as $\frac{4}{10}$ would be 4 tenths.
- Students can compare angles to determine whether an angle is acute (less than 90°) or obtuse (greater than 90°). This will allow them to have a benchmark reference for what an angle measure should be when using a tool such as a protractor or an angle ruler. Provide students with four pieces of straw, two pieces of the same length to make one angle and another two pieces of the same length to make an angle with longer rays.