



## THIRD GRADE MATHEMATICS – Unit 5

Dear Parents,

During Unit 5, your children will build the understanding that the size of a fractional part is relative to the size of the whole. For example,  $\frac{1}{2}$  of the paint in a small bucket could be less paint than  $\frac{1}{3}$  of the paint in a larger bucket, but  $\frac{1}{3}$  of a ribbon is longer than  $\frac{1}{5}$  of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Your children will use fractions to represent numbers equal to, less than, and greater than one. They will solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators. Your children will apply their knowledge of fractions by using rulers to measure to the nearest fourth of an inch. They will organize their measurement data on a line plot.

### FRACTIONS – EQUIVALENCE AND COMPARING

#### **Students need to:**

- Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
- Recognize and generate simple equivalent fractions, e.g.,  $\frac{1}{2} = \frac{2}{4}$ ,  $\frac{4}{6} = \frac{2}{3}$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model.
- Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form  $3 = \frac{3}{1}$ ; recognize that  $\frac{6}{1} = 6$ ; locate  $\frac{4}{4}$  and 1 at the same point of a number line diagram.
- Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.
- Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.
- Show the data by making a line plot, where the horizontal scale is marked off in appropriate units- whole numbers, halves, or quarters. (X's or dots can be used to plot the data.)

### KEY VOCABULARY

- Fraction:** A number that represents one or more equal parts of a whole
- Unit fraction:** A fraction in which its numerator is 1 and its denominator is a whole number
- Numerator:** The number of parts one selects from the whole
- Denominator:** The number of parts the "whole" is partitioned into
- Halves:** either of two equal parts into which a whole can be partitioned
- Fourths:** one or more of four equal parts into which a whole can be partitioned
- Sixths:** one or more of six equal parts into which a whole can be partitioned
- Eighths:** one or more of eight equal parts into which a whole can be partitioned
- Tenths:** one or more of ten equal parts into which a whole can be partitioned
- Thirds:** one or more of three equal parts into which a whole can be partitioned
- Equivalent:** having the same value or amount
- Compare:** to examine in order to note similarities and differences
- Unit interval:** on a number line, it is the whole that is the interval from 0 to 1, as measured by length
- Interval:** distance between two points
- Inch:** customary unit for measuring length
- Length:** the measure of the greatest dimension of anything measured from end to end
- Line Plot:** A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. (see example on page 2)

## WAYS PARENTS CAN HELP

- When cooking, explore the concept of equivalent fractions when measuring ingredients. For example, use two one-fourth measurements to equal a one-half measurement or three one-third measurements to equal one whole measurement.
- Explore the concept of equivalent fractions when measuring length with a ruler. For example, two-eighths of an inch is equivalent to one-fourth of an inch.
- Compare fractional amounts when they have the same numerator or the same denominator. For example, one-fourth of an inch is less than three-fourths of an inch; one-half of a cup is greater than one-third of a cup.
- Use chalk on the driveway to create the "key" on a basketball court or hopscotch board with specific measurements. Simply draw some lines on the driveway for your child to measure to the nearest  $\frac{1}{2}$  inch.
- Take weekly measurements of the plants/flowers that are beginning to grow in your garden. Record the measurements in a chart.
- Ask your child to grab a handful of string beans, potatoes, or carrots. Have him/her measure to the nearest  $\frac{1}{4}$  inch and record the data on a line plot.

## BACKGROUND INFORMATION AND EXAMPLES FOR PARENTS

Equivalent Fractions:

<http://video.carrollk12.org/view/GRONNELLAEQUIVALENTFRACTIONS>

Express a Whole Number as a Fraction:

<http://video.carrollk12.org/view/GRONNELLAEXPRESSINGWHOLENUMBERSASFRACTIONS>

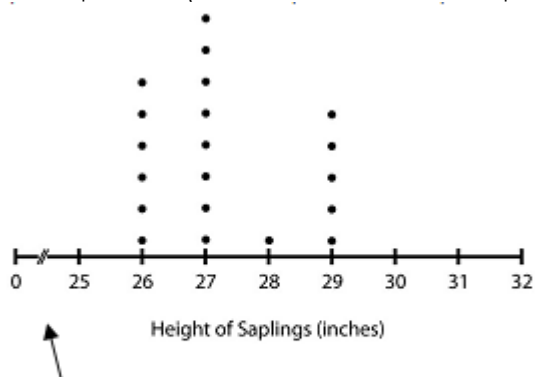
Comparing Fractions:

<http://video.carrollk12.org/view/SCHNAUBLECOMPARINGFRACTIONS>

<http://video.carrollk12.org/view/GRONNELLACOMPARINGFRACTIONSWITHDRAWINGS>

<http://video.carrollk12.org/view/GRONNELLACOMPARINGDIFFERENTSIZEWHOLE>

Show the data by making a line plot, where the horizontal scale is marked off in appropriate units- whole numbers, halves, or quarters. (X's or dots can be used to plot the data.)



Note that the break in the scale between 0 and 25 indicates that marks between 0 and 25 are not shown.

Starting at zero and using the break mark is one example of how a line plot is created. We do not need to be rigid about those components.