Third Grade Family Letter

Unit 8: Fractions

Fractions are numbers between the whole numbers. For example, the number ½ :

- describes each part of a shape that has been cut into 2 equal pieces.
- is the number exactly halfway between 0 and 1 on the number line .

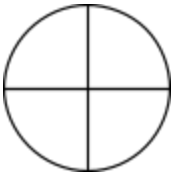
½ is also an equal share of objects divided into 2 groups. This way of thinking of fractions, as parts of sets, will be emphasized in 4th grade and beyond

In this unit, third graders build on work they did in second grade to recognize and name fractions. They practice many strategies to understand, show, and compare fractions.

Representations of Fractions

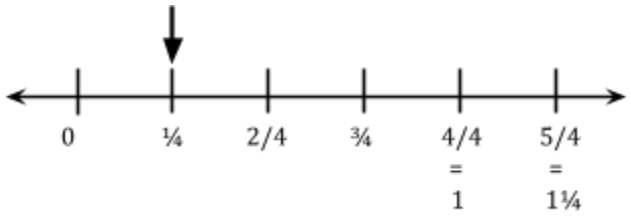
In this unit, students investigate fractions of areas or regions, and they investigate fractions on a number line, which is how they are used in measurement. Below are examples of showing ¼.

A regional representation is when we show a region (or shape) cut into equal parts. This way of showing fractions is most familiar for many of us. This circle is cut into 4 equal pieces. Each piece is ¼ of the whole circle.

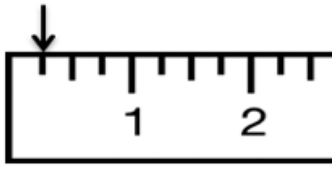


A number line or measurement representation shows a fraction as a point on a number line. In each of these representations, the length between 0 and 1 has been divided into 4 equal pieces.

On a number line, every mark represents a number. The number ¼ is shown here with an arrow.

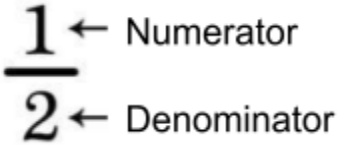


The most common way we see measurement representations in everyday life is on a ruler. On a ruler, each mark measures off a line segment of a specific length. The length ¼ inch is shown here with an arrow.



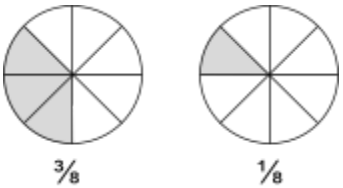
What is a Unit Fraction?

A unit fraction is a fraction with a "1" in the numerator, such as one half (½) or one fourth (¼). Unit fractions are the building blocks for all other fractions. For example the fraction ¾ is composed of three of the unit fraction ¼. Unit fractions will be very important as students add, subtract, multiply, and divide fractions in 4th and 5th grades.

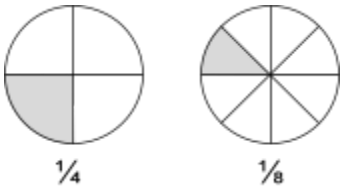


In a fraction, the **denominator** is the number on the bottom, and it shows how many equal pieces one whole has been divided into. The **numerator** is the number on the top and it shows how many of those pieces you have.

Comparing Fractions



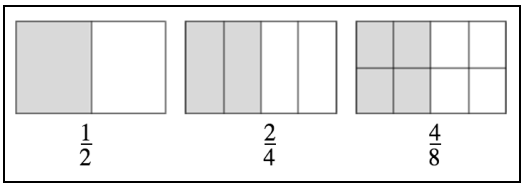
When two fractions have the **same denominator**, we know that the whole has been divided into the same number of parts. To compare two fractions with the same denominator, we can compare their numerators. **⅜ > ⅛**



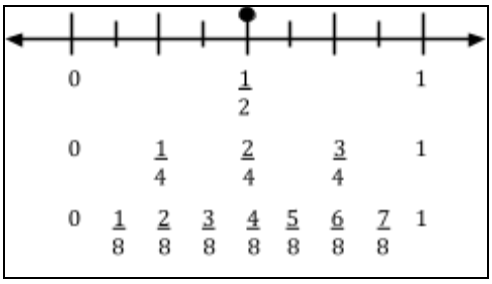
When two fractions have the **same numerator**, we know that they both represent the same number of pieces. To compare two fractions with the same numerator, we can compare their denominators. **¼ > ⅛**

In this unit, 3rd graders make models of fractions that include number lines and paper kits. Their learning is always connected to a visual model.

Equivalent Fractions



Equivalent fractions are the same number represented in different forms. For example the fractions $\frac{1}{2}$, $\frac{2}{4}$, and $\frac{4}{8}$ all are the same point on the number line, and show the same area of a whole. In this unit, students spend time recognizing equivalent fractions, in preparation for future work in both 4th and 5th grades. Equivalency is one of the most important ideas for a student working with fractions.



Activities You Can Do to Support Math at Home

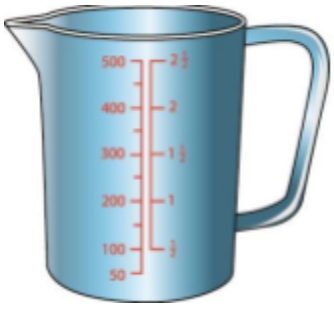
Helping Your Child with Homework

The Standards for Mathematical Practice describe the ways students behave as they learn math. While the mathematics content changes from grade to grade, these standards are the same for kindergarten through high school. Mathematical Practice Standard 4 says: Model with mathematics.

This standard represents one of the great shifts in the Common Core in that students show their thinking in multiple ways. In this unit, students spend a lot of time making sense of fractions by building them, drawing them, locating them on a number line, and using them in real world situations such as recipes.

Fractions All Around

3rd graders will work with fractions for the remainder of the year and into 5th grade. Help your child practice understanding them in their world by pointing them out in recipes, grocery prices, bills, and anywhere else they appear in your world.



For example, use measuring cups to have your child demonstrate how many thirds (⅓) are in a whole, how many fourths (¼) of a cup you need to make half (½) a cup, and how many times you have to refill a ½ cup measure to make 1½ cups. Ask your child to show you ½ of a slice of bread, and ¼ of the same slice. Ask: “Which is larger?” Repeat with other fractions and other items.