Unit **8**
Family Letter
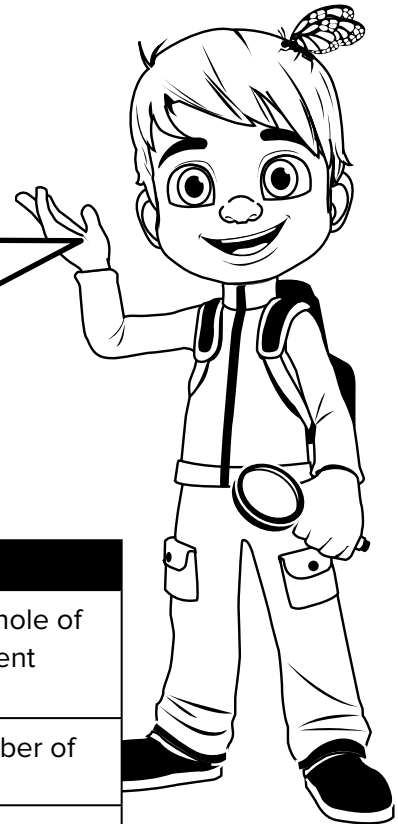
Dear Family,

In this unit, Fraction Equivalence and Comparison, your child will explore different strategies to compare fractions based on the wholes, the numerators, and the denominators.

STEM Career Kid for this Unit

Hi, I'm Owen.

I want to be an entomologist. I will use math in my job when I study insects. I'll show students how I will compare fractions in my work.

What math terms will your child use?

Term	Student Understanding
equivalent fractions	fractions that represent the same amount of a whole of the same size; For example, $\frac{1}{2}$ and $\frac{2}{4}$ are equivalent when considering a whole of the same size.
numerator	the top number in a fraction; represents the number of equal parts being used
denominator	the bottom number in a fraction; represents the number of equal parts in the whole

Math @ Home Activity

What can your child do at home?

Write the fractions $\frac{1}{8}$, $\frac{2}{8}$, . . . $\frac{7}{8}$ on separate index cards. Do the same for fractions with denominators of 6, 4, 3, and 2. Place the cards facedown. Have your child choose two cards. If your child can show that the two fractions are equivalent or compare them accurately, then he or she can set the cards aside in a pile. See how many pairs your child can make.

What Will Students Learn in This Unit?

Size of the Whole

Your child will learn that fractions can only be compared when the wholes corresponding to each fraction are the same size. For example, students may be told that two buckets are filled $\frac{2}{3}$ of the way full with water. If the buckets are the same size, then they hold the same amount of water. However, if one bucket is larger than the other, then $\frac{2}{3}$ of the larger bucket will equate to more water than $\frac{2}{3}$ of the smaller bucket.

Equivalent Fractions

Your child will learn how to determine whether fractions are equivalent as well as how to generate equivalent fractions. Students will recognize that equivalent fractions represent the same point on number lines or the same area when using a representation.
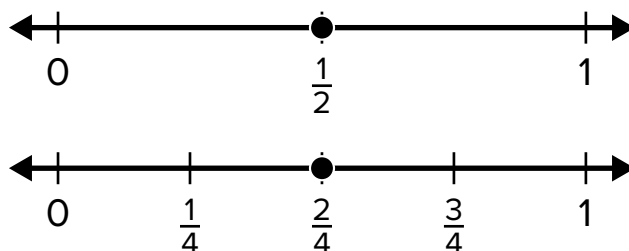
$\frac{1}{2}$ and $\frac{2}{4}$ are the same point on the number line. So, $\frac{1}{2}$ is equivalent to $\frac{2}{4}$.

Comparing Fractions with the Same Denominator

Your child will learn how to compare fractions with the same denominator. When the denominators are the same, the equal parts corresponding to each fraction are the same size. This allows students to compare the fractions using the values of the numerators. For example, $\frac{3}{4}$ is greater than $\frac{2}{4}$ because 3 equal parts of $\frac{1}{4}$ is greater than 2 equal parts of $\frac{1}{4}$.

Comparing Fractions with the Same Numerator

Your child will also learn how to compare fractions with the same numerator. When the numerators are the same, each fraction has the same number of parts being used. Students need only compare the sizes of the equal parts, or denominators. A larger denominator represents smaller equal parts. For example, $\frac{4}{6}$ is greater than $\frac{4}{8}$ because equal parts of $\frac{1}{6}$ are larger than equal parts of $\frac{1}{8}$, and both fractions have 4 equal parts.