Mathematical Background

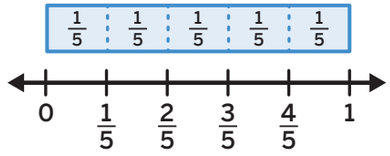
Here is an overview of the content your students will learn in this unit.

Fraction Equivalence and Comparison

Representing Fractions

TEKS 4.3.A, 4.3.B

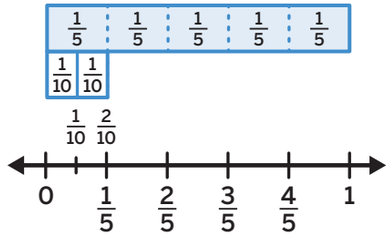
- Fractions can be represented using fraction strips and number lines.
  - The wholes in both representations are divided into equal-sized parts, determined by the denominator.
  - The number of parts shaded in a fraction strip and the location of the point on a number line is determined by the numerator.
  - Multiple fractions can be represented using the same visual model by partitioning or combining parts.
- Non-unit fractions can be represented as a sum of unit fractions.
  - For example, $\frac{4}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$.



Generating Equivalent Fractions

TEKS 4.3.C

- There are different strategies for generating equivalent fractions.
  - Fraction strips that are the same length and refer to the same whole can be used to identify, represent, and verify equivalent fractions.
  - Number lines can be used to identify, represent, and verify equivalent fraction by partitioning and combining given parts.
  - Multiplication and division can be used to generate equivalent fractions.
    - For example, $\frac{1 \times 2}{5 \times 2} = \frac{2}{10}$



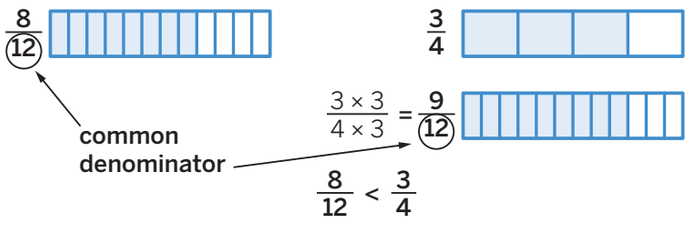
Comparing Fractions

TEKS 4.3.D

- Fractions with different numerators and denominators can be compared using:
  - **Visual fraction models:** They are often used to compare when the given fractions have the same numerator or denominator.
  - **Benchmark numbers:** Whole numbers, such as 1, and fractions, such as $\frac{1}{2}$, can serve as a reference point to determine the size of a fraction.
  - **Equivalent fractions:** Equivalent fractions can be used to create a **common denominator** or **common numerator**.
- Fraction comparisons are only valid if the 2 fractions refer to the same whole.
- Comparison statements are written using comparison symbols.
  - Greater than (>), less than (<), or equal to (=).

Comparing by creating equivalent fractions:

Compare $\frac{8}{12}$ and $\frac{3}{4}$.



Unit Investigation

Lesson 1 is the Unit Investigation. Students create number lines that show different types of fractions to build curiosity and apply their own knowledge in a variety of ways. Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy exploring fraction equivalence and comparison in baking and measuring. You may ask:

- "How could you measure the ingredients for a recipe using the fewest number of different measuring scoops possible?"
- "How could you measure the ingredients for a recipe so that you would have to make the fewest number of measurements?"