

## KEY CONCEPT OVERVIEW

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In Lessons 12 through 15, students compare fractions by using different models (e.g., **number line**, **area model**) and strategies.

You can expect to see homework that asks your child to do the following:

- Plot fractions on a number line and use the number line to compare fractions.
- Compare fractions by referring to **benchmarks**. (See Sample Problem.)
- Compare fractions by thinking about the size of the unit (e.g., thirds are larger than sixths, so  $\frac{1}{3} > \frac{1}{6}$ ).
- Compare fractions with common and related **numerators** (e.g., fifths are larger than eighths; there are three of each unit, so  $\frac{3}{5} > \frac{3}{8}$ ).
- Compare fractions with common and related **denominators** (e.g.,  $\frac{1}{3}$  is equivalent to  $\frac{2}{6}$ , so  $\frac{1}{3} < \frac{3}{6}$ ).

## SAMPLE PROBLEM (From Lesson 12)

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Compare the fractions below by writing  $>$  or  $<$  on the line. Give a brief explanation for the answer, referring to one or more of the benchmarks  $0$ ,  $\frac{1}{2}$ , and  $1$ .

$$\frac{2}{3} \text{ — } < \text{ — } \frac{7}{8}$$

$\frac{2}{3}$  is one-third from 1.  $\frac{7}{8}$  is one-eighth from 1. Thirds are larger than eighths, meaning that  $\frac{2}{3}$  is farther from 1 than  $\frac{7}{8}$  is from 1, so  $\frac{2}{3} < \frac{7}{8}$ .

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

## HOW YOU CAN HELP AT HOME

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Play the Fraction Number Battle game.

1. Remove the jacks, queens, kings, and jokers from a deck of cards. Let aces hold a value of 1. Decide how long you will play the game. Set a timer.
2. Divide the cards evenly between two players. Each player puts his cards facedown in a pile.
3. Each player picks two cards off the top of his pile, places them face up in the playing area, and arranges the cards as a fraction with the smaller number as the numerator.

**HOW YOU CAN HELP AT HOME**  
(continued)

4. Each player calls out the value of his fraction. The player whose fraction has the greater value takes all of the cards played and places them at the bottom of his pile. If the fractions have an equal value, each player places three cards facedown in the playing area, followed by a new pair of cards face up, forming a new fraction with the cards. The player whose new fraction has the greater value gets all of the cards in the playing area.
5. Continue until one player wins by getting all of the cards. If time runs out first, the player with the most cards wins.

To LEARN MORE by viewing complete directions and other card game ideas, visit [eurmath.link/eureka-card-games](http://eurmath.link/eureka-card-games).

**TERMS**

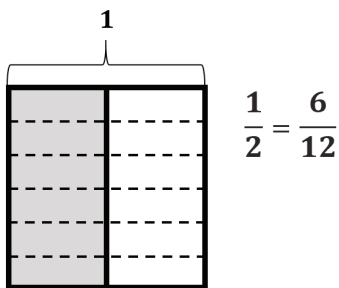
**Benchmark:** A reference point by which something is measured. The numbers 0,  $\frac{1}{2}$ , and 1 are benchmarks that can be used to help compare fractions. For example,  $\frac{3}{8}$  is less than  $\frac{1}{2}$ , and  $\frac{4}{6}$  is greater than  $\frac{1}{2}$ ; therefore,  $\frac{3}{8}$  is less than  $\frac{4}{6}$ .

**Denominator:** Denotes the fractional unit (the bottom number in a fraction). For example, *fifths* in three-fifths, as represented by the 5 in  $\frac{3}{5}$ , is the denominator.

**Numerator:** Denotes the count of fractional units (the top number in a fraction). For example, *three* in three-fifths, or 3 in  $\frac{3}{5}$ , is the numerator.

**MODELS**

**Area Model**



**Number Line**

