

Lesson: Comparing Fractions

4th Grade Objective: 1.03 – Solve problems using models, diagrams, and reasoning about fractions and relationships among fractions

Lesson:

Comparing Fractions with like denominators

A Fraction consists of two numbers separated by a line.

The top number (or numerator) tells how many fractional pieces there are. In the fraction $\frac{3}{8}$, we have three pieces.

The denominator of a fraction tells how many pieces an object was divided into. The fraction $\frac{3}{8}$ tells us that the whole object was divided into 8 pieces.

If the denominators of two fractions are the same, the fraction with the largest numerator is the larger fraction.

For example $\frac{5}{8}$ is larger than $\frac{3}{8}$ because all of the pieces are the same and five pieces are more than three pieces.

Comparing Fractions with different denominators

If the numerators of two fractions are the same, the fraction with the smaller denominator is the larger fraction.

For example $\frac{5}{8}$ is larger than $\frac{5}{16}$ because each fraction says there are five pieces but if an object is divided into 8 pieces, each piece will be larger than if the object were divided into 16 pieces. Therefore, five larger pieces are more than five smaller pieces.

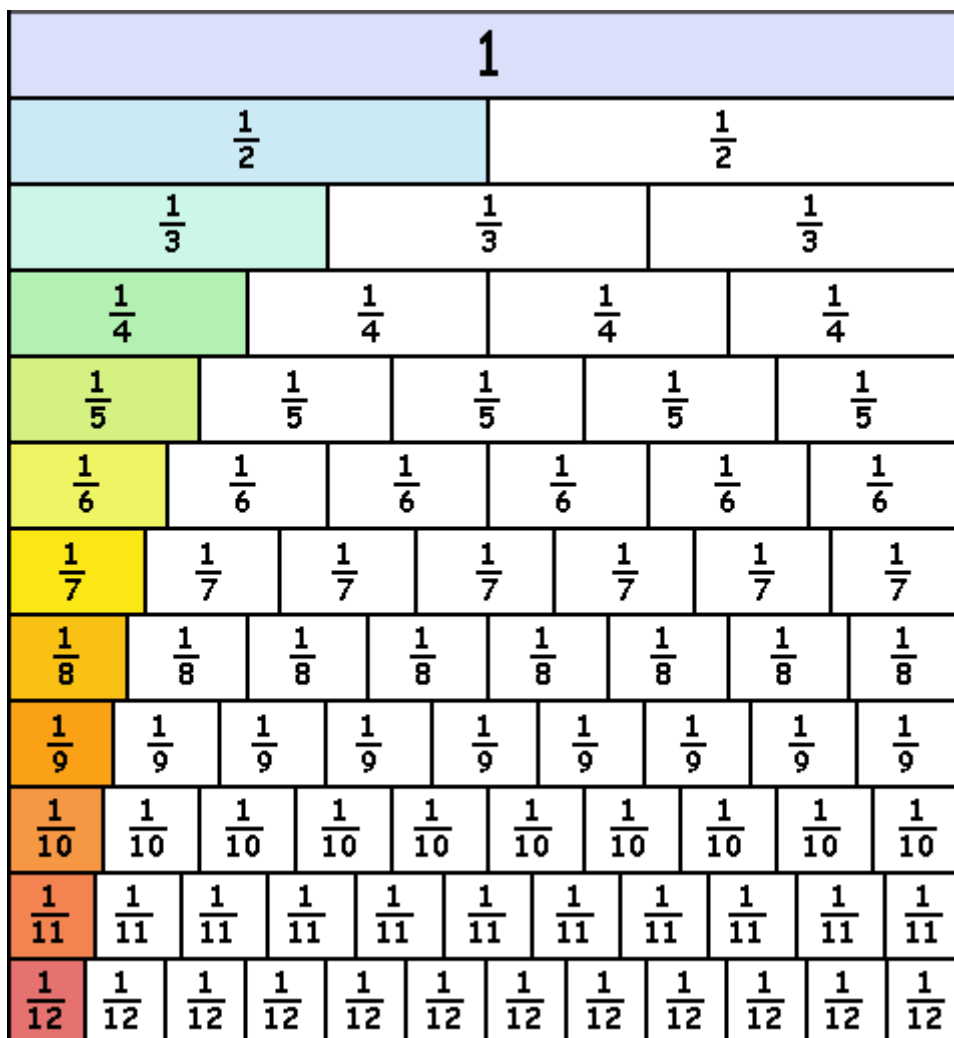
Fraction Strips

On the next page you will see a Fraction strip sheet.

This sheet shows many different fractions and can be used to reference the size of a fraction when compared to one whole.

As you begin the practice section of this lesson, look back to the Fraction Strips for assistance if necessary.

Fraction Strips



Example This long box has been divided into 8 equal parts. What fraction of the long box is shaded orange?



The long box has been divided into 8. So each small piece is $\frac{1}{8}$ of the whole long box.

There are 2 parts shaded orange. So 2 of the $\frac{1}{8}$ s are shaded. This means the fraction will have 2 on the

top.

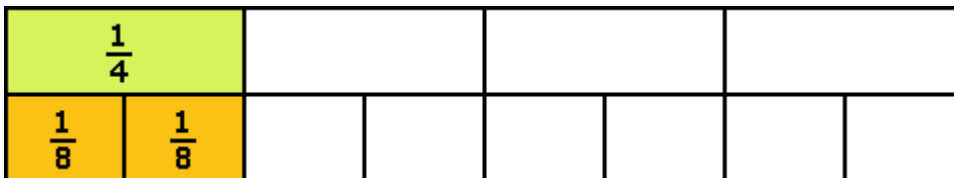
So the fraction of the long box that is shaded orange is $\frac{2}{8}$

Example If the long box had been cut into 4 pieces and one piece shaded green then it would look like this.



The fraction for this is $\frac{1}{4}$.

We can compare the two fractions by putting them next to each other like this



You can see that the amount shaded is the same in each strip. This means that the fractions are the same.

So $\frac{2}{8}$ is the same value as $\frac{1}{4}$

We can write this as $\frac{2}{8} = \frac{1}{4}$

Practice: Compare the following fractions using $<$, $>$, or $=$.

1. $\frac{1}{2} \bigcirc \frac{1}{4}$	2. $\frac{6}{8} \bigcirc 1$	3. $\frac{6}{18} \bigcirc \frac{1}{3}$
4. $\frac{3}{9} \bigcirc \frac{3}{5}$	5. $\frac{2}{4} \bigcirc \frac{6}{13}$	6. $\frac{3}{5} \bigcirc \frac{9}{15}$
7. $\frac{10}{3} \bigcirc \frac{1}{3}$	8. $\frac{2}{16} \bigcirc \frac{2}{4}$	9. $\frac{1}{5} \bigcirc \frac{1}{3}$
10. $\frac{3}{5} \bigcirc \frac{1}{5}$	11. $\frac{5}{15} \bigcirc \frac{1}{5}$	12. $\frac{1}{2} \bigcirc \frac{5}{8}$