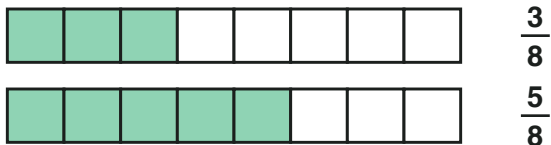


Comparing Fractions: How It Works

Which fraction is bigger? Four ways to tell.

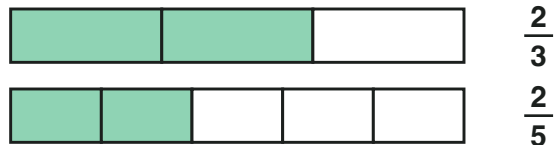
1. Same bottom number



The pieces are the same size, so just count them.
More pieces is more. Compare the tops.

$$\frac{3}{8} < \frac{5}{8}$$

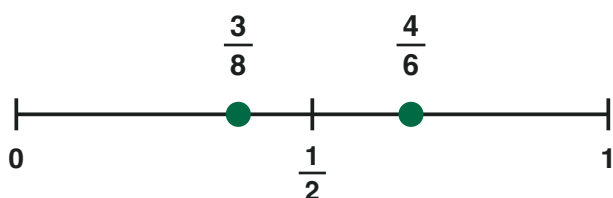
2. Same top number



Both have 2 pieces, but fifths are smaller than thirds. **Smaller bottom number, bigger fraction.**

$$\frac{2}{3} > \frac{2}{5}$$

3. Compare each one to one half



$\frac{3}{8}$ is less than half, because half of 8 is 4. $\frac{4}{6}$ is more than half, because half of 6 is 3.

$$\frac{3}{8} < \frac{4}{6}$$

4. Make the bottoms match

Which is bigger? $\frac{2}{3}$ or $\frac{3}{4}$

Step 1. Find a bottom number both can use: 12.

Step 2. Rename them. $\frac{2}{3} = \frac{8}{12}$ and $\frac{3}{4} = \frac{9}{12}$

Step 3. Same bottoms now, so compare the tops. 8 is less than 9.

$$\frac{2}{3} < \frac{3}{4}$$

Which way should I use?

- 1 Same bottoms?** Compare the tops.
- 2 Same tops?** The smaller bottom is bigger.
- 3 One under half, one over?** The one over half is bigger.
- 4 None of those?** Make the bottoms match.

Reading the signs

3 < 5 3 is less than 5

5 > 3 5 is greater than 3

4 = 4 4 is equal to 4

The wide-open side of the sign always faces the **bigger** number.

Watch out

A bigger bottom number does **not** make a bigger fraction. $\frac{1}{8}$ is smaller than $\frac{1}{4}$. Cutting a whole into more pieces makes each piece smaller.

