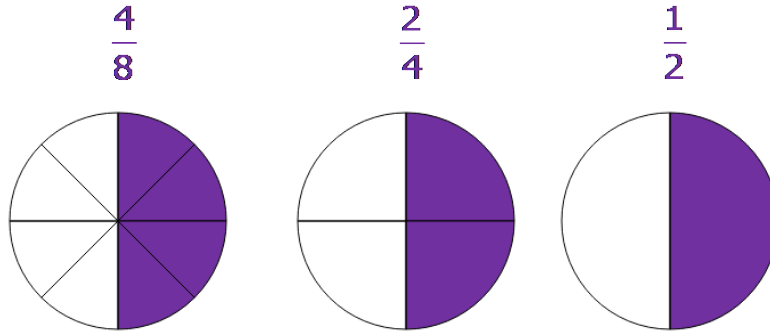
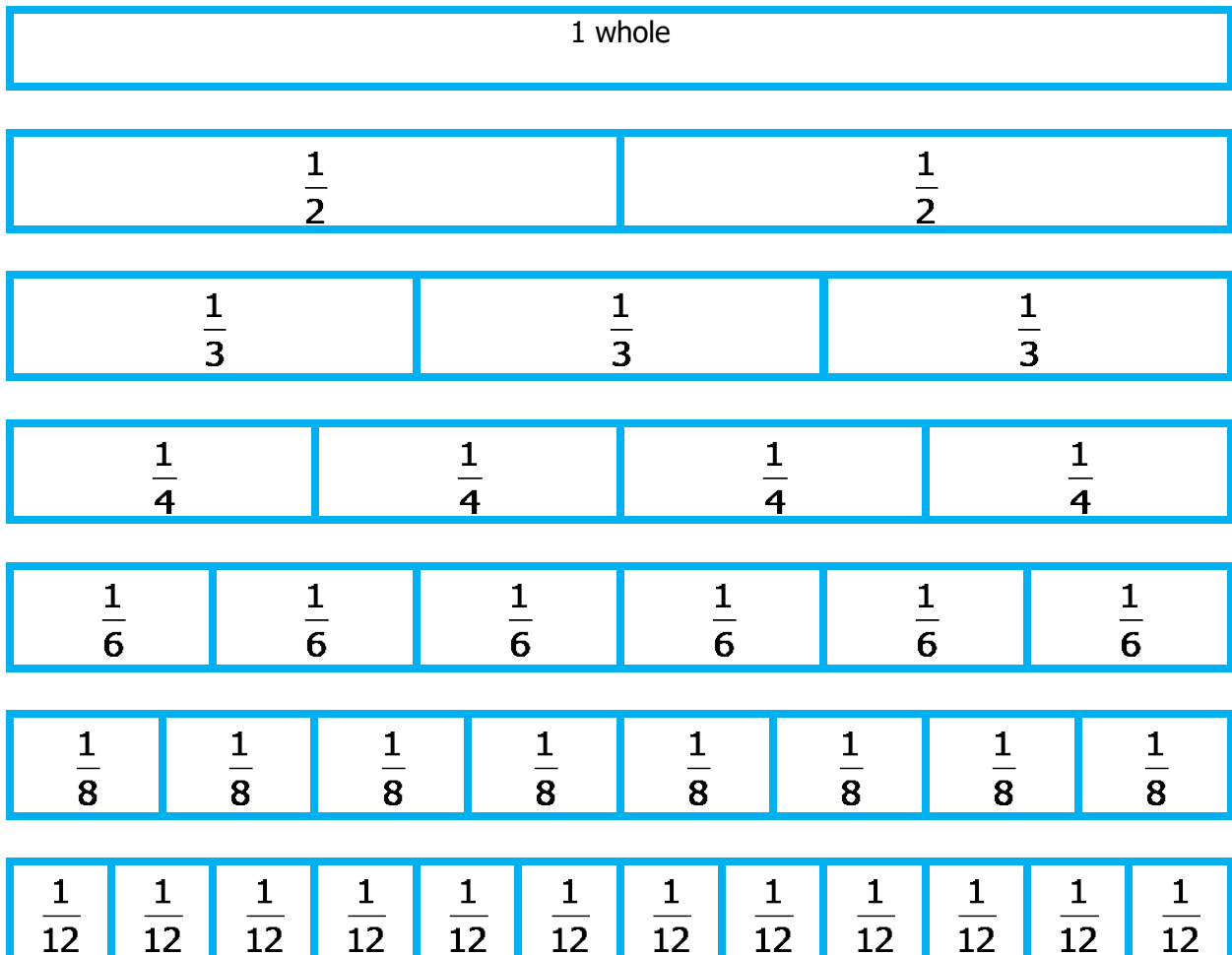


Equivalent Fractions

Some fractions may look different, but they actually represent the same amount!



Although each of these fractions are written differently, they all represent the same amount. Many amounts can be represented by a variety of fractions. By using fraction strips, we can see which fractions are equivalent:



For example, all of these fractions are equivalent. Look at the fraction strips to see how they line up.

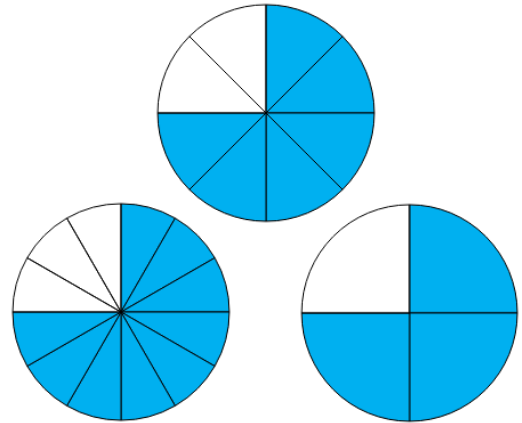
$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{6}{12}$$

Example 1:

Write an equivalent fraction for $\frac{6}{8}$

By looking at the fraction strips we can see there are two equivalent fractions:

$$\frac{6}{8} = \frac{3}{4} = \frac{9}{12}$$

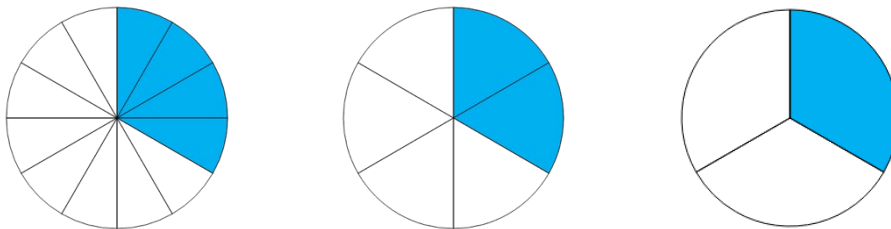


Example 2:

Write an equivalent fraction for $\frac{1}{3}$

With the fraction strips we can see two equivalent fractions:

$$\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$$



We could also determine that these fractions are equivalent through multiplication. If we multiply both the numerator and the denominator by the same number, the fraction's value does not change.

$$\frac{1 \times 2}{3 \times 2} = \frac{2}{6} \qquad \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$$

There are an infinite number of equivalent fractions we could find. We simply have to multiply the numerator **AND** denominator by the **SAME** number and we will have

another equivalent fraction.

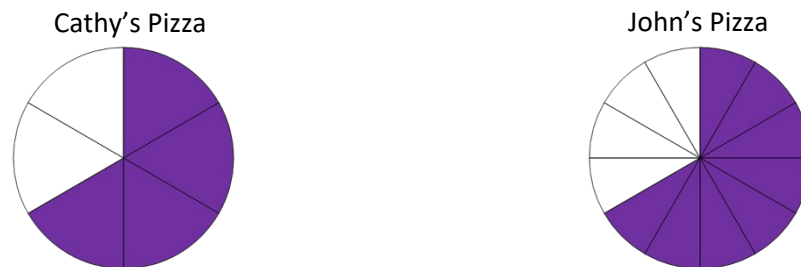
Example 3:

John and Cathy both made pizza last night. John cut his pizza into 12 slices and ate 8 of them. Cathy cut her pizza into 6 slices and ate 4 of them. Who ate more pizza?



Cathy ate $\frac{4}{6}$ of her pizza, and John ate $\frac{8}{12}$ of his pizza.

If we look at both of the fractions on the fraction strip, we can see that both are equivalent. We could even draw our own pizzas for each of them and see that the two numbers are equivalent. The same amount of each circle is shaded purple.



We could also multiply both the numerator and denominator of four sixths by 2 to see that it is the same as eight twelfths.

$$\frac{4 \times 2}{6 \times 2} = \frac{8}{12}$$

Both Cathy and John ate the same amount of pizza!