Nest

Numerator

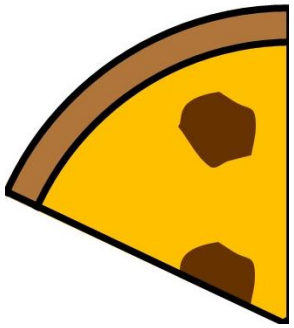
Denominator

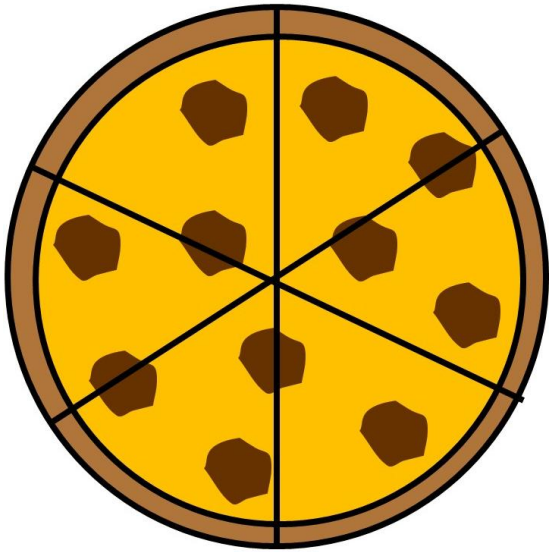
Down

Teach Grow Sow

Nom, Nom, Nom!

Numerator





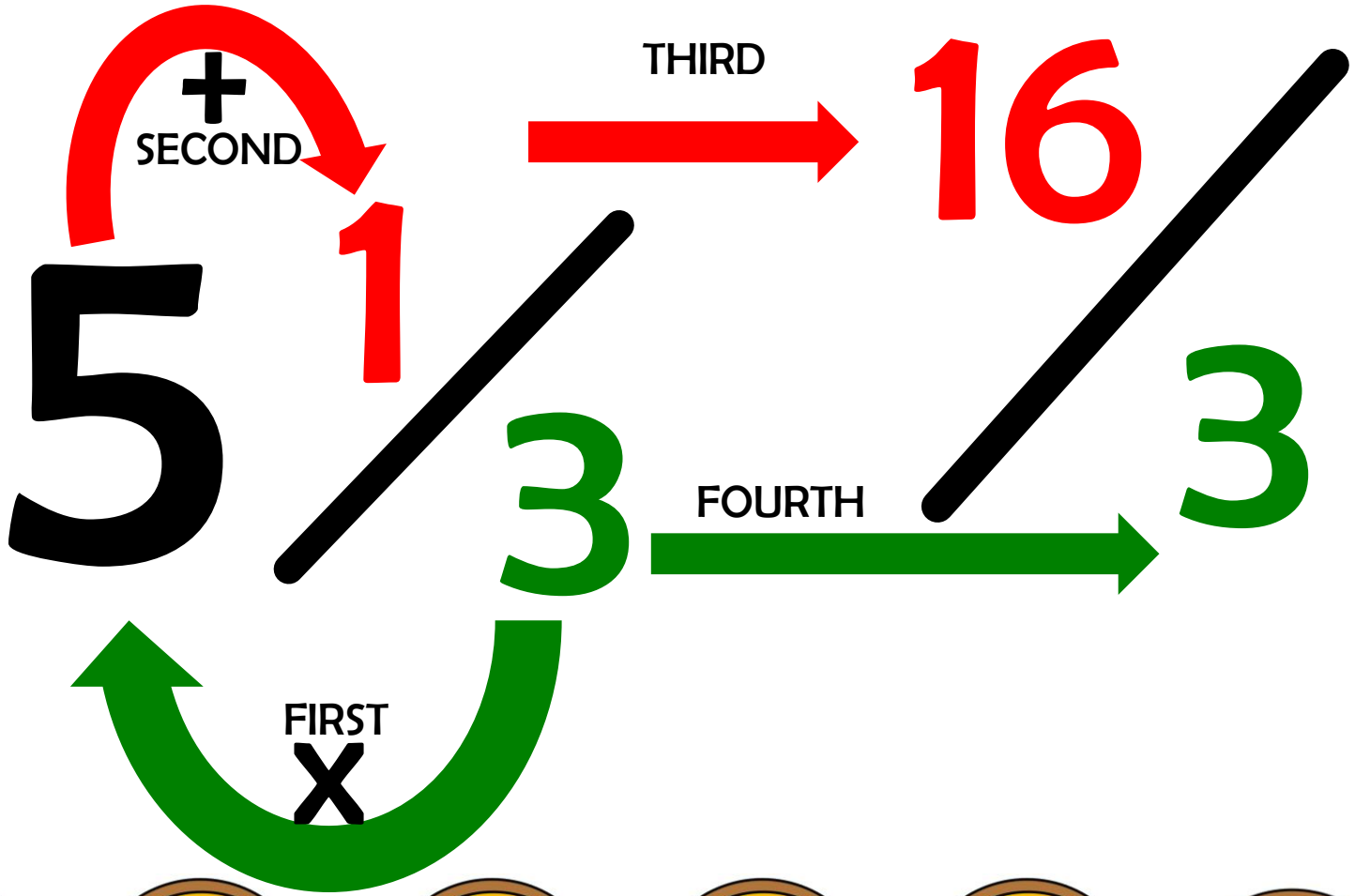
Denominator

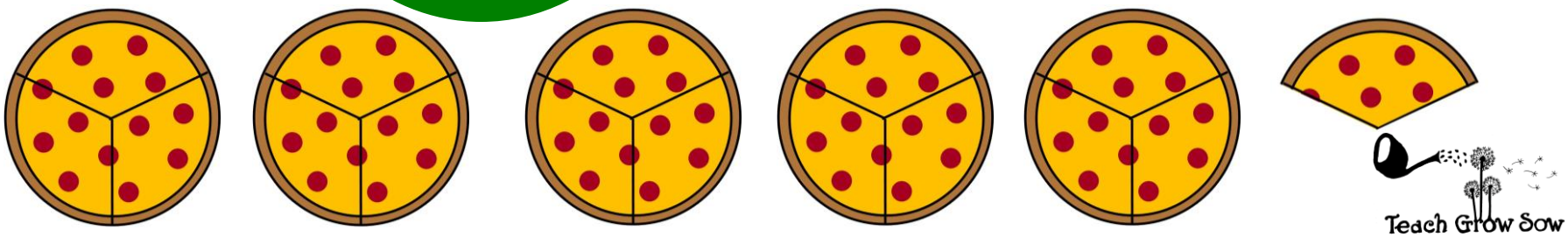
Deep Dish

Teach Grow Sow

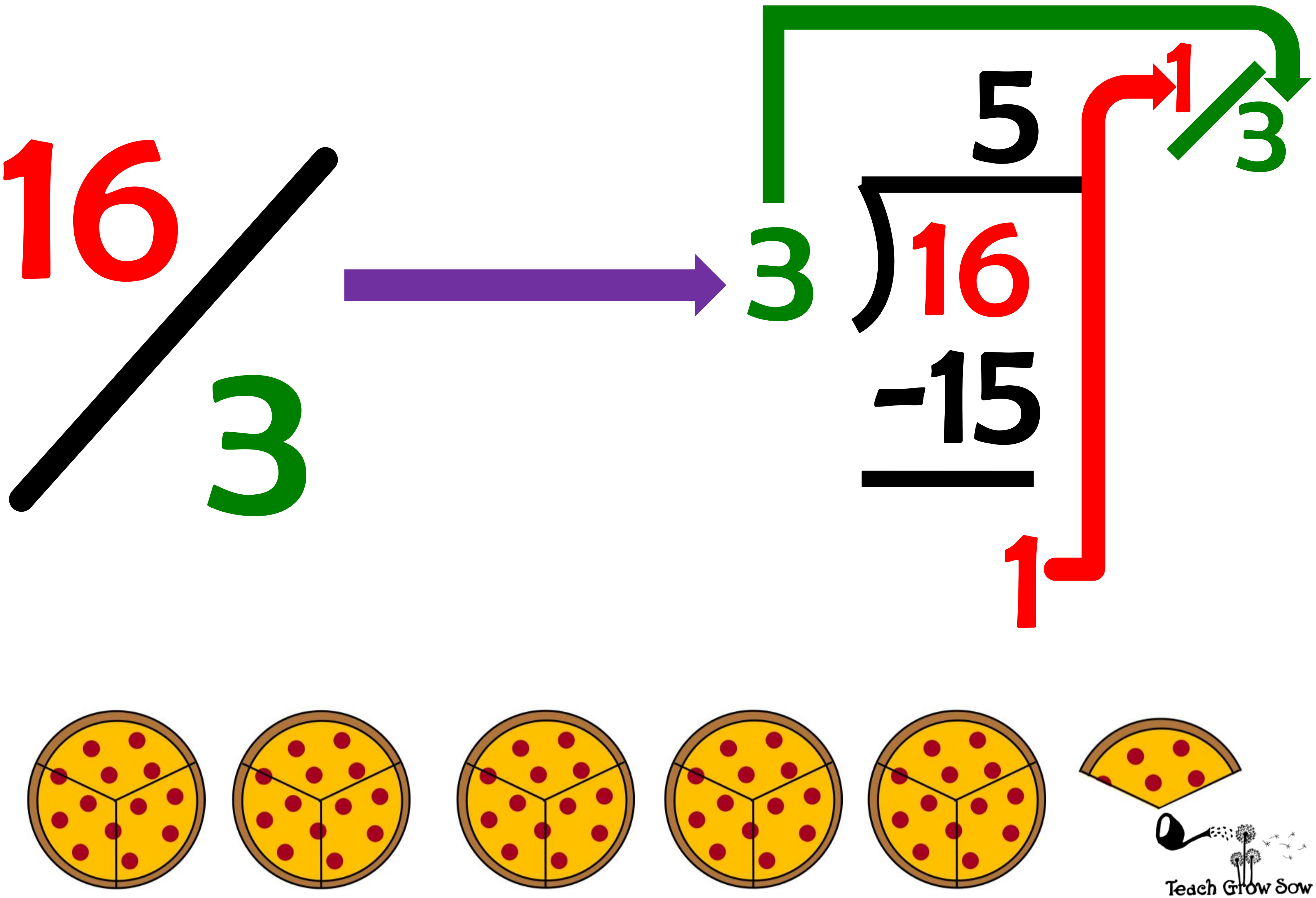
To teach the terms Numerator and Denominator, have students make a whole pizza (see Pizza Fractions pages) and say,
“I have # slices of Deep-Dish Pizza. I’m going to eat # slice(s). Nom, nom, nom!” as they pretend to eat it. Remind them that Numerator starts with an N because it’s the part you Nom, Nom, Nom. Denominator starts with a D because it’s the Deep-Dish Pan you’re taking slices out of.

Mixed Number → Improper Fraction





Improper Fraction → Mixed Number



Simplest Form = Smallest Fraction #s

Find the biggest number that both the numerator and denominator can be divided by:

10 & 12 can both be divided by 2.

$$\frac{10}{12} \div 2 = \frac{5}{6}$$

$$\frac{10}{12} \div 2 = \frac{5}{6}$$

4 & 8 can both be divided by 4.

$$\frac{4}{8} \div 4 = \frac{1}{2}$$

$$\frac{4}{8} \div 4 = \frac{1}{2}$$

To find the Simplest Form, find each number's Greatest Common Factor

(The biggest number that can evenly divide into both of them.)

6 is the greatest number that can evenly divide both 18 & 24

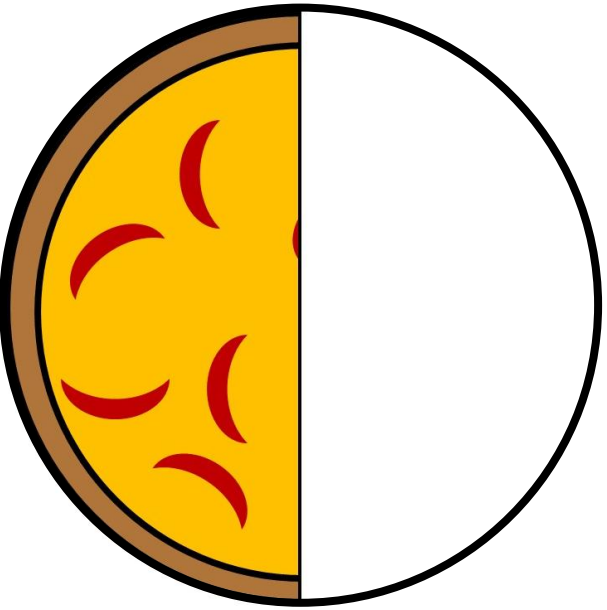
$$\frac{18}{24} \div 6 = \frac{3}{4}$$

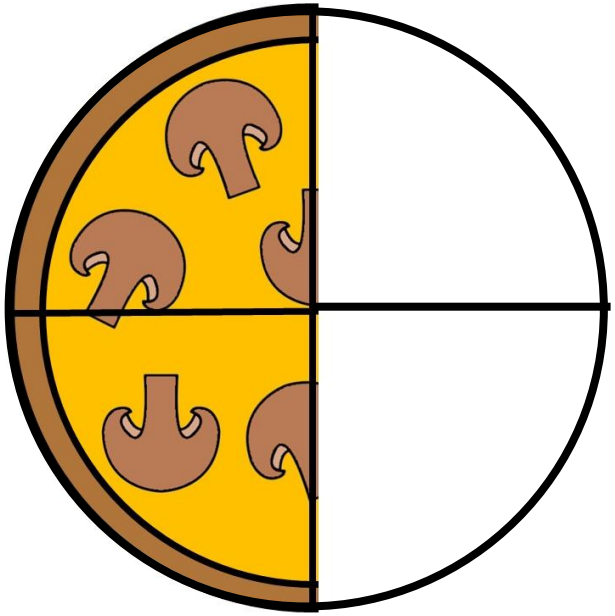
Equivalent Fractions

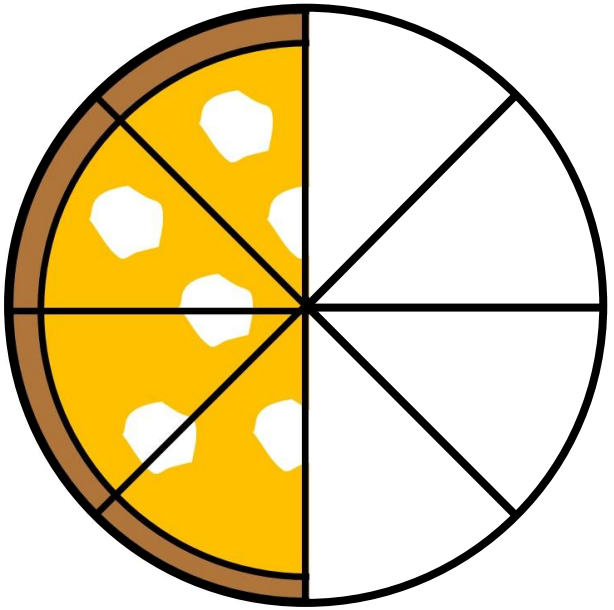
Teach Grow Sow

Equal the same amount of pizza!

$\frac{1}{2}$ $\frac{2}{4}$ $\frac{4}{8}$



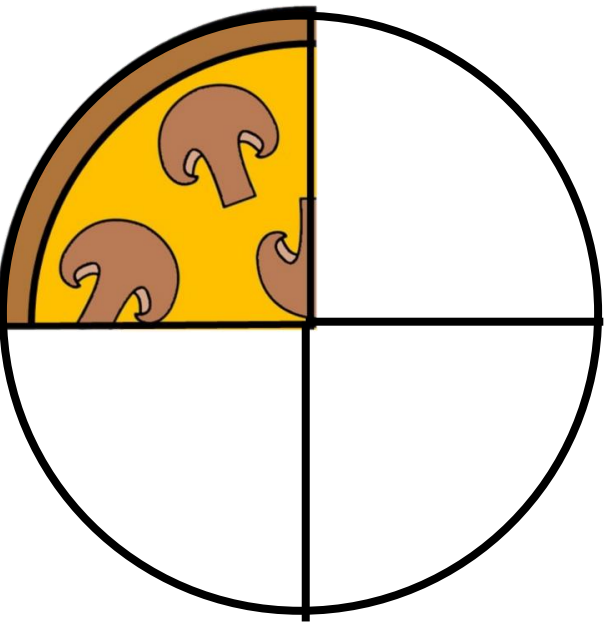


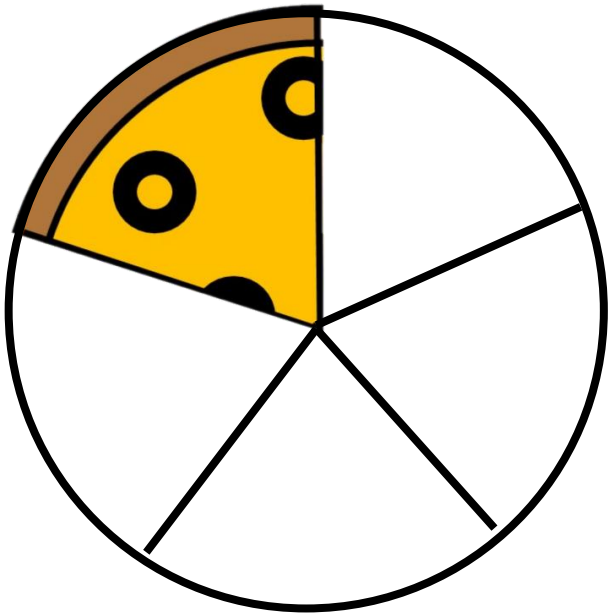


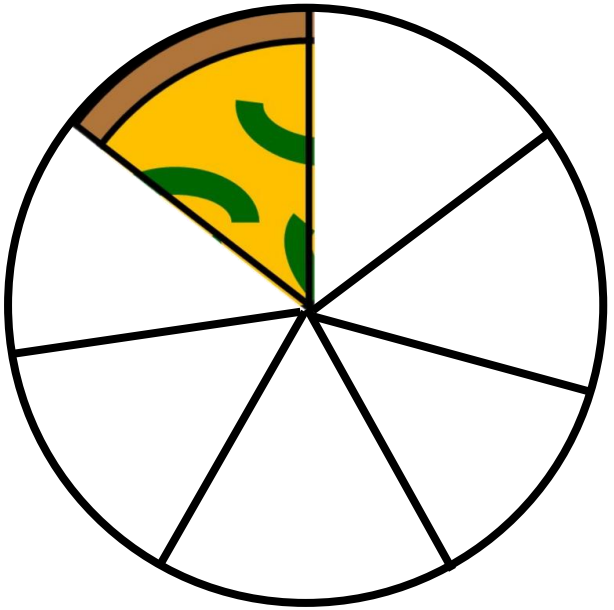
Unit Fractions

Are just one slice of pizza!

$\frac{1}{4}$ $\frac{1}{5}$ $\frac{1}{7}$





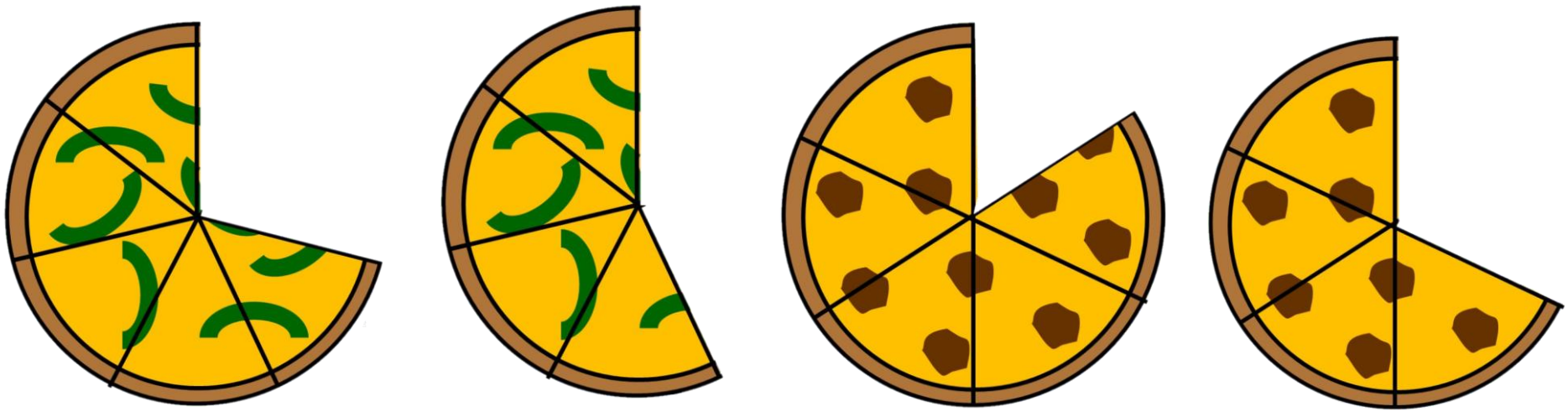


Like Fractions

Teach Grow Sow

Come from the same pizza!

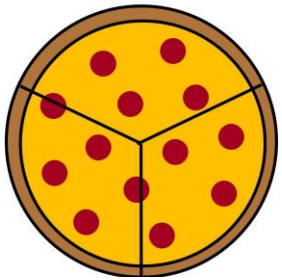
$\frac{5}{7}$ $\frac{4}{7}$ $\frac{5}{6}$ $\frac{4}{6}$



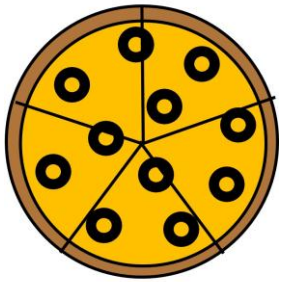
Any Fraction With the Same Numerator and Denominator Equals 1

Teach Grow Sow

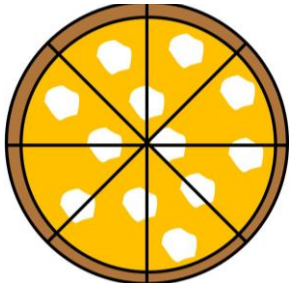
$\frac{3}{3} = 1$



$\frac{5}{5} = 1$



$\frac{8}{8} = 1$

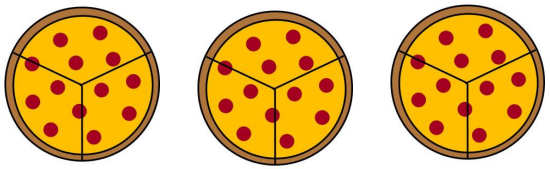


Any Whole Number Can Be a Fraction

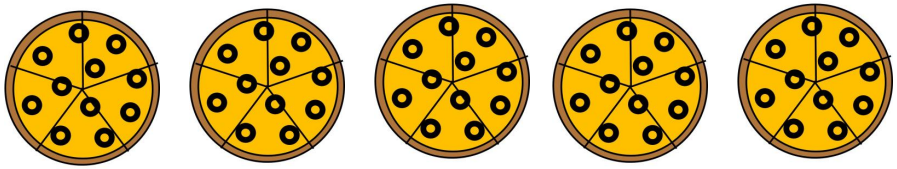
Teach Grow Sow

Just place it in the numerator with a one in the denominator!

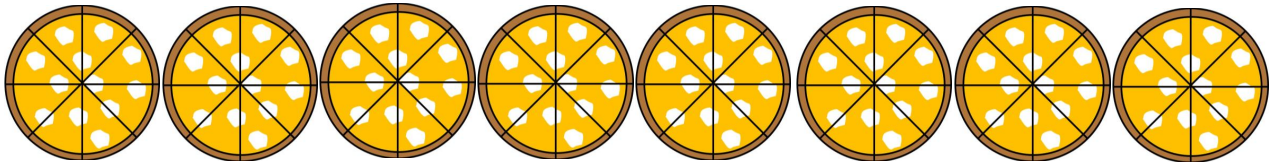
3 → $\frac{3}{1}$



5 → $\frac{5}{1}$



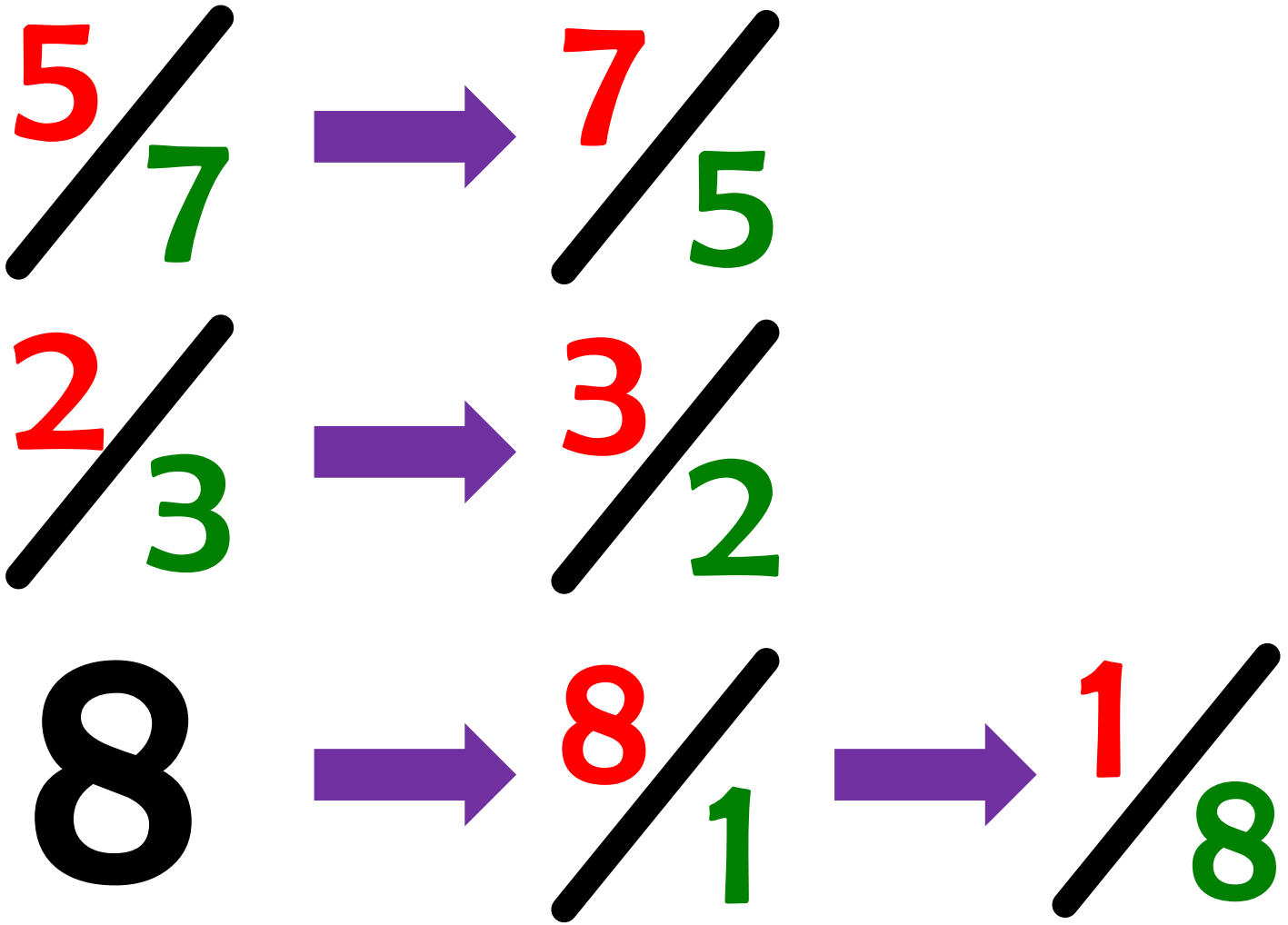
8 → $\frac{8}{1}$



Reciprocals

Teach Grow Sow

Are just the fraction flipped upside down!



To Make Like Fractions

Find the smallest multiple shared by all denominators. 3, 4 and 2 can all go into 12. Whatever you have to multiply the denominator by to make that number, multiply the numerator by it also.

$$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

$$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$$

$$\frac{1}{2} \times \frac{6}{6} = \frac{6}{12}$$

Adding & Subtracting

Only add & subtract like fractions.

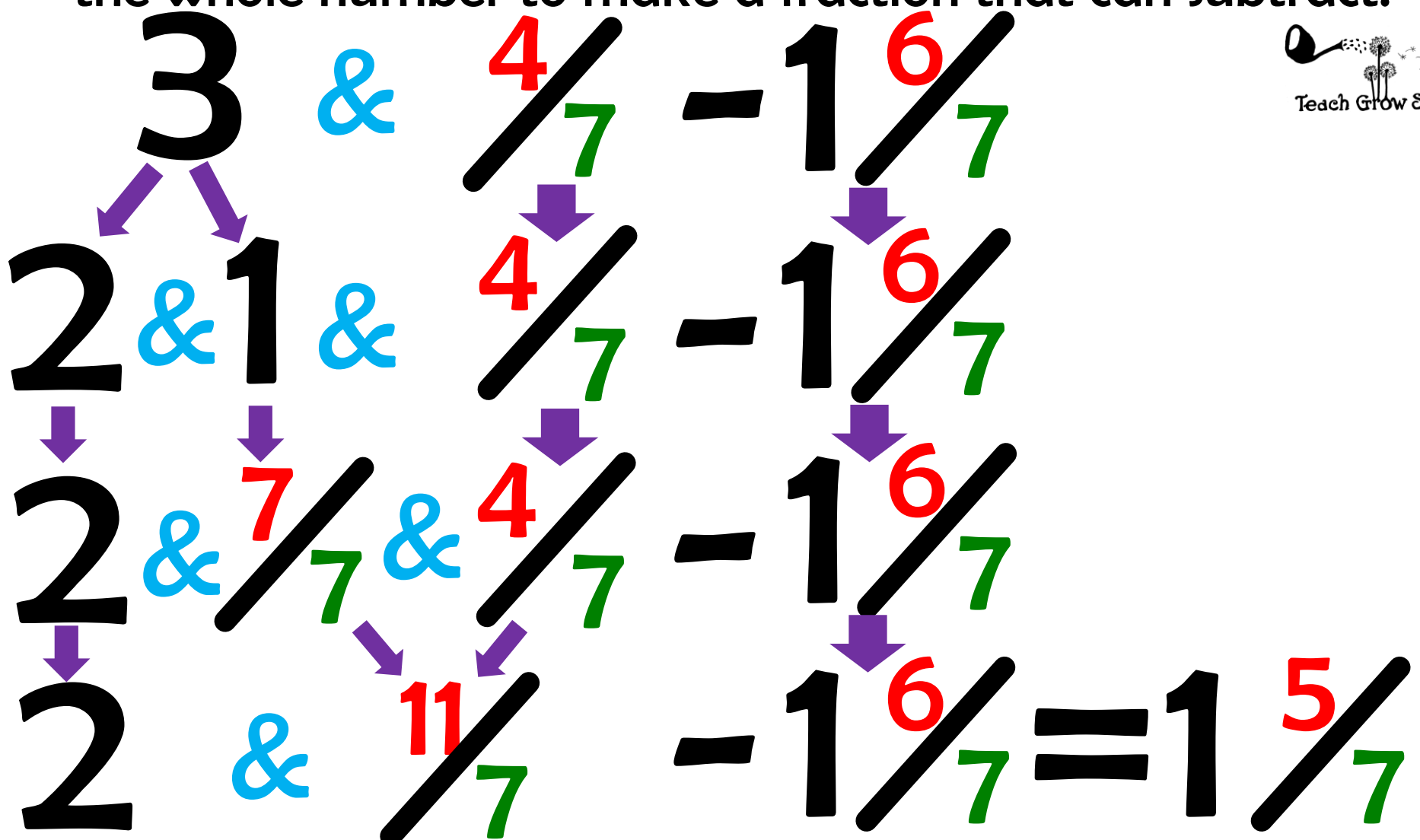
The denominator stays the same!

$\frac{5}{7} + \frac{4}{7} = \frac{9}{7}$ or $1\frac{2}{7}$

$\frac{5}{7} - \frac{4}{7} = \frac{1}{7}$

Subtracting Mixed Numbers

First, multiply to make the fractions alike. Then, borrow from the whole number to make a fraction that can subtract.



Multiplying Fractions

Multiply the numerators by the numerators & the denominators by the denominators.

$$\frac{3}{4} \times \frac{4}{5} = \frac{12}{20}$$

$$\frac{5}{7} \times \frac{3}{8} = \frac{15}{56}$$

Dividing Fractions

Flip the divisor upside down & multiply!

$$\frac{4}{5} \div \frac{3}{8}$$

$$\frac{4}{5} \times \frac{8}{3} = \frac{32}{15} \text{ or } 2\frac{2}{15}$$

Multiplying and Dividing Fractions by a Whole Number

Turn the whole number into a fraction by placing a one in the denominator.

$$\frac{4}{5} \div 3 \rightarrow \frac{4}{5} \div \frac{3}{1} \rightarrow$$

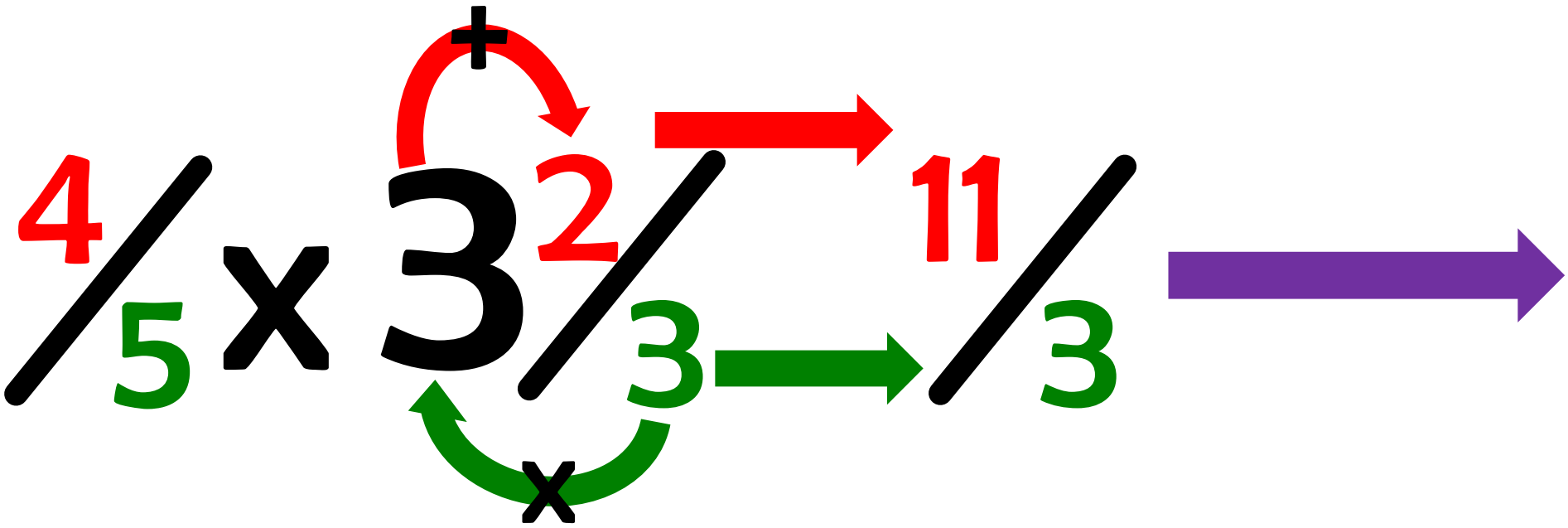
$$\frac{4}{5} \times \frac{1}{3} = \frac{4}{15}$$

Teach Grow Sow

Multiplying Fractions by a Mixed Number

Teach Grow Sow

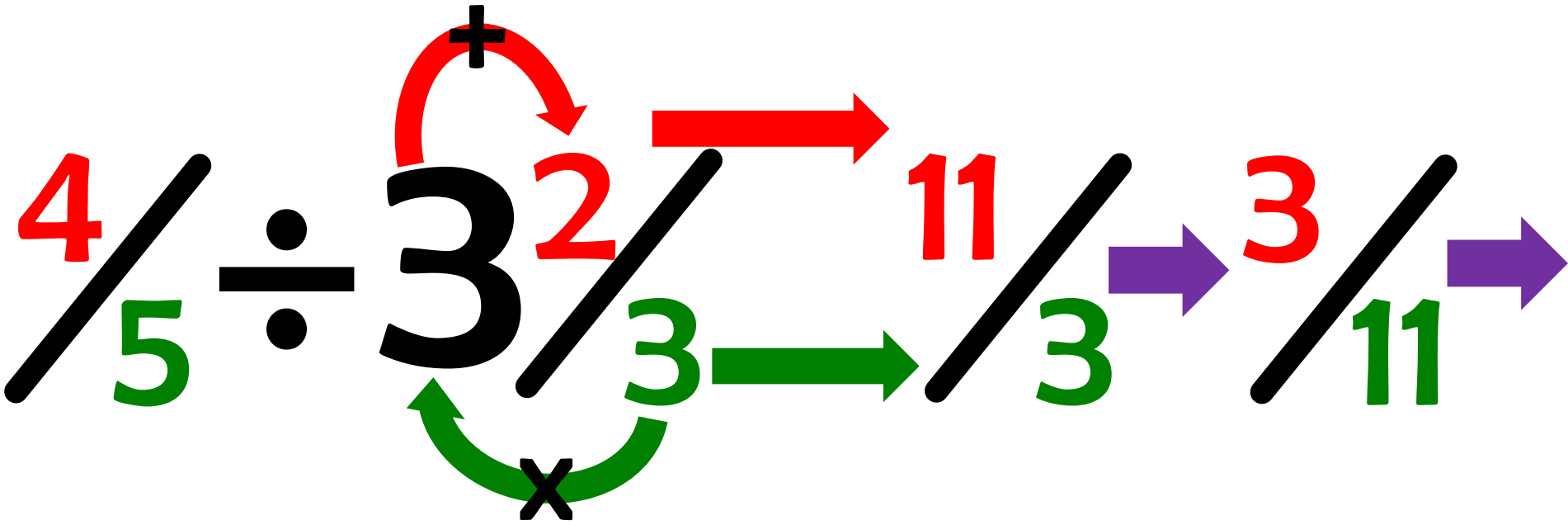
Turn the mixed number into an improper fraction.



$$\frac{4}{5} \times 3\frac{2}{3} = \frac{4}{5} \times \frac{11}{3} = \frac{44}{15} \text{ or } 2\frac{14}{15}$$

Dividing Fractions by a Mixed Number

Turn the mixed number into an improper fraction, then flip it.



$$\frac{4}{5} \times \frac{3}{11} = \frac{12}{55}$$

$$\frac{\text{Dividend}}{\text{Divisor}}$$

$$\text{Divisor}\overline{)\text{Dividend}}$$

$$\text{Dividend} \div \text{Divisor}$$

If multiplying a # by a fraction, the quotient will be less than the #.

$$\frac{5}{7} \times \frac{2}{3} < \frac{5}{7}$$

$$7 \times \frac{2}{3} < 7$$

If multiplying a # by an improper fraction, the quotient will be greater than the #.

$$\frac{5}{7} \times \frac{4}{3} > \frac{5}{7}$$

$$7 \times \frac{4}{3} > 7$$

If multiplying a # by a fraction with the same numerator and denominator, the quotient will be the same as the #.

$$\frac{5}{7} \times \frac{4}{4} = \frac{5}{7}$$

$$7 \times \frac{3}{3} = 7$$