

Fractions

express one or more parts of a whole



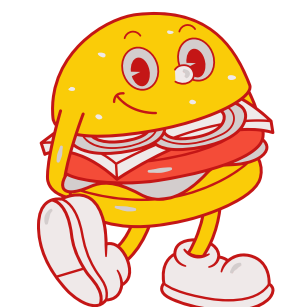
whole number
5
-
3
numerator
 number of parts counted

4
denominator
 total number of parts of the whole

ADDITION

$$\begin{array}{r} \overset{\times 2}{\frac{2}{3}} + \frac{1}{6} \\ \overset{\times 2}{\frac{4}{6}} + \frac{1}{6} \\ \hline \frac{5}{6} \end{array}$$

SUBTRACTION

$$\begin{array}{r} \overset{\times 2}{\frac{2}{3}} - \frac{1}{6} \\ \overset{\times 2}{\frac{4}{6}} - \frac{1}{6} \\ \hline \frac{3}{6} \end{array}$$


Proper fractions
The numerator is **smaller** than the denominator

$\frac{5}{12}$, $\frac{1}{4}$, $\frac{12}{18}$, $\frac{4}{16}$

Mixed numbers
Numbers that are made up of a whole number and a proper fraction

$1\frac{5}{6}$, $2\frac{3}{7}$, $13\frac{4}{5}$

Improper fractions
The numerator is **equal to or larger** than the denominator

$\frac{17}{3}$, $\frac{3}{3}$, $\frac{5}{4}$, $\frac{11}{6}$

Equal fractions

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

$\div 2$ $\div 2$

MULTIPLICATION

$$\frac{2}{3} \times \frac{1}{6} = \frac{2}{18}$$

DIVISION

$$\begin{array}{r} \frac{2}{3} \div \frac{1}{6} \\ = \frac{2}{3} \times \frac{6}{1} \quad \text{flip} \\ \text{keep} \quad \text{change} \\ = \frac{12}{3} \\ = 4 \end{array}$$
