

Fractions Explained

A fraction is part of a whole split into equal parts. These are the words and ideas you need to read one.



A fraction is equal parts

$\frac{3}{4}$ means a whole split into 4 equal parts, with 3 of them taken. It is also a division: $\frac{3}{4} = 3 \div 4 = 0.75$.



Numerator

The top number. It counts how many of the equal parts you have. In $\frac{3}{8}$ you have 3 parts.



Denominator

The bottom number: how many equal parts the whole is split into. In $\frac{3}{8}$ the parts are eighths. It can never be 0.



Unit fractions

A numerator of 1: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{10}$. The bigger the denominator, the smaller each part, so $\frac{1}{8}$ is less than $\frac{1}{4}$.



Proper fractions

The numerator is smaller than the denominator, such as $\frac{3}{5}$ or $\frac{7}{10}$. A proper fraction is always worth less than 1.



Improper fractions

The numerator is bigger than the denominator, such as $\frac{9}{4}$. It is worth more than 1 whole: $\frac{9}{4} = 2.25$.



Mixed numbers

A whole number plus a proper fraction. $9 \div 4 = 2$ remainder 1, so $\frac{9}{4} = 2 \frac{1}{4}$. Back again: $2 \times 4 + 1 = 9$.



On a number line

Split 0 to 1 into 4 equal steps; 3 steps from 0 is $\frac{3}{4}$. Keep going past 1 and you reach $\frac{5}{4}$, the same point as $1 \frac{1}{4}$.



Equal parts or it is not a fraction

Cut a cake into 4 pieces of different sizes and one piece is not a quarter. Fractions only work when every part of the whole is the same size.

NEXT IN THE SERIES

2. Equivalent Fractions and Simplifying