

# 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*