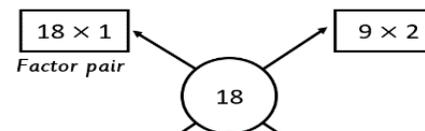# Year 5: Merlins

Mathematics

Autumn 2

Number

Multiplication and Division

Fractions

Factors

Factors are numbers that number could be divided by without leaving any remainders. The best way to find all of the factors is to look for factor pairs starting with 1 and then trying 2 and continue working systematically until they are all found.

In the case of 18, 1 x 18 is a factor pair; 2 x 9 also works; 3 x 6 is another factor pair. 4 is not a factor nor is 5. Then all the factors are found because the next number (6) is already listed as a factor.
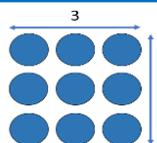

18 × 1		9 × 2
Factor pair	18	
3 × 6		6 × 3

Some numbers v ... *prime numbers.*

The factors of 18 are: 1, 2, 3, 6, 9 and 18

	Key Vocabulary	Definition
Multiplication and division	common factors	Where two numbers share several factors.
	cubed numbers	A number multiplied by itself and by itself again. The symbol for cubed is ^{3} e.g., $2^3 = 2 \times 2 \times 2 = 8$
	factors	Factors are the numbers that when multiplied together make a product. The factors of 12 are 1, 2, 3, 4, 6, 12.
	multiples	The result of multiplying a number by an integer (not by a fraction). 6, 12 and 33 are all multiples of 3.
	prime numbers	A prime number is a number which only has two factors which are always 1 and itself. 2 is the only even prime number as all other even numbers have a factor of 2.
	square numbers	A number that is multiplied by itself. The symbol for squared is ^{2}.
Fractions	denominator	The digit(s) at the bottom of the fraction. They represent the number of parts the whole has been divided into.
	equivalent	Means that the values are equal in value, but presented in different ways.
	fraction	A value which is part of a whole. If the numerator is greater than the denominator then it is greater than a whole.
	improper fraction	An improper fraction is a fraction where the numerator is greater than the denominator.
	mixed number	A mixed number is a number which has an integer and a fraction.
	numerator	The top part of the fraction which signifies how many parts are taken.
	unit fraction	A fraction where the numerator is one.

Fractions

Fractions can also be greater than one and can be written as an improper fraction or a mixed number.

$\frac{5}{3}$ ← Numerator ← Denominator

whole → $2\frac{1}{4}$ ← fraction

Comparing and ordering fractions

To compare fractions, it is useful to get the fractions to have a common numerator or denominator. Then they can be put into the right order.

$\frac{1}{3}, \frac{5}{6}, \frac{7}{12}$

$\frac{4}{12}, \frac{10}{12}, \frac{7}{12}$

$\frac{1}{3}, \frac{7}{12}, \frac{5}{6}$

Square Numbers

The result when a number has been multiplied by itself e.g. 3 x 3 = 9 so 9 is a square number.

3, 3