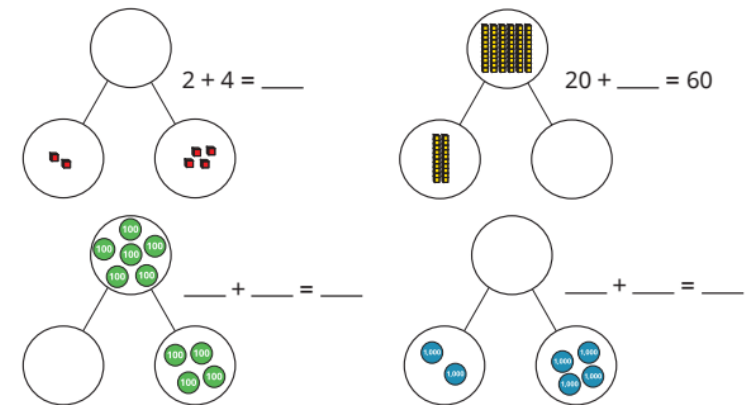


## How we teach maths in KS2

**The part whole model** is a pictorial representation that shows the relationship between a whole and its parts. While usually constructed with just two parts, a whole number can be partitioned into as many component parts as a person may choose. For example, 6 can be partitioned into 2 parts (4 & 2), 3 parts (3, 2 & 1) or even 7 parts (0.5, 0.5, 1, 1, 1, 1, 1).

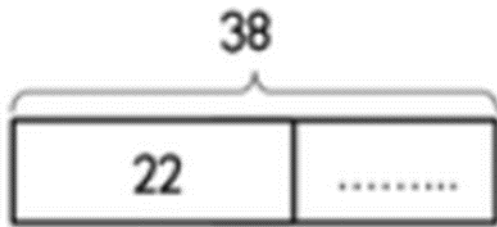


Hundreds	Tens	Ones

**Base 10** is a method of assigning a place value to numbers. It's also known as the place value number system. In base 10, each digit in a position of a number can have an integer value ranging from 0 to 9 (10 possibilities). This system uses 10 as its base number, so that is why it is called the base-10 system. Base-10 blocks are used to help children to experiment with basic addition and subtraction within the realms of base-10. Base-10 describes how much numerical value each digit has in a whole number. Each number = 10x (times) the value to its right.

A **place value counter** is a practical and interactive way for children to master their understanding of number and place value. They can be used on their own or with place value charts (as shown in the image) to explore the value of digits. Through the exploration, children can physically manipulate numbers to understand how the value of numbers change within certain calculations.

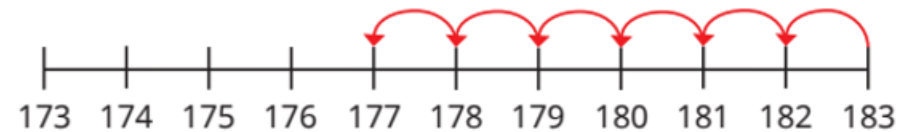
Hundreds	Tens	Ones



A **bar model** is a pictorial representation of a problem or concept where bars or boxes are used to represent the known and unknown quantities.

A **number line** is a straight, horizontal line with numbers placed at even increments along the length. It's not a ruler, so the space between each number doesn't matter, but the numbers included on the line determine how it's meant to be used.

- Use the number line to work out  $183 - 6$



	Th	H	T	O
	2	1	7	6
+	3	4	5	8
	5	6	3	4
		1	1	

	Th	H	T	O
	2	<del>3</del> <sup>2</sup>	<del>4</del> <sup>1</sup>	3
-		1	5	1
	2	1	9	2

Examples of the **compact column method** for addition and subtraction.

An **array** in maths is an arrangement of objects, numbers or pictures in columns or rows. The purpose of an array is to help children understand multiplication and division.



$$\begin{array}{r} \phantom{\times} \phantom{0} 3 \phantom{0} 4 \\ \phantom{\times} \phantom{0} 2 \phantom{0} 3 \\ \hline 1_1 \phantom{0} 0_1 \phantom{0} 2 \\ \phantom{0} 6 \phantom{0} 8 \\ \hline 1 \phantom{0} 7_1 \phantom{0} 0 \\ \hline \end{array}$$

Examples of the **compact column method** for multiplication.

		1	2	3	5
x				5	3
		3	7	0	5
	6	1	7	5	0
	6	5	4	5	5

An example of **long division**.

		0	3	6	
12		4	3	2	
		3	6		
			7	2	
			7	2	
				0	

		1	2	2	3
4		4	8	9	<sup>1</sup> 2

An example of **short division**.

A useful link for additional resources and video links: <https://whiterosemaths.com/homelearning>



Visit <https://whiterosemaths.com/1-minute-maths> to download the White Rose app