

# Roman Way Academy



## The Year 2 Maths Learner

### Working Mathematically

By the end of year 2, children will solve problems with one or a small number of simple steps. Children will discuss their understanding and begin to explain their thinking using appropriate mathematical vocabulary, hands-on resources and different ways of recording. They will ask simple questions relevant to the problem and begin to suggest ways of solving them.

### Number

#### **Counting and understanding numbers**

Children will develop their understanding of place value of each digit in numbers to at least 100 and apply this when ordering, comparing, estimating and rounding numbers. They will use the  $<$ ,  $>$  and  $=$  signs to compare and order numbers. They will identify, represent and estimate numbers using different representations, including the number line. Children begin to understand zero as a place holder as this is the foundation for manipulating larger numbers in subsequent years. They will read and write numbers to at least 100 in numerals and in words. Children will count fluently forwards and backwards up to and beyond 100 in steps of 2, 3, 5 from 0 and in tens from any number. They will use hands-on resources to help them understand and apply their knowledge of place value in two digit numbers, representing the numbers in a variety of different ways.

### Calculating

Children will solve problems with addition and subtraction using:

- concrete objects and pictorial representations, including those involving numbers, quantities and measures
- their knowledge of mental and written methods
- use partitioning which is where the number is broken up into more manageable parts (e.g.  $64 = 60 + 4$  or  $50 + 14$ )
- use re-ordering (e.g. moving the larger number to the beginning of the number sentence when adding several small numbers)
- using a number line

They will add and subtract numbers including:

- a two-digit number and ones
- a two-digit number and tens
- two two-digit numbers
- adding three one-digit numbers

They will recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. They recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

They learn that addition and multiplication number sentences can be reordered and the answer remains the same (commutativity) such as  $9+5+1=5+1+9$  and  $5 \times 2 = 2 \times 5$ . They also learn that this is not the case with subtraction and division. Children know the 2, 5 and 10 times tables, as well as the matching division facts ( $4 \times 5 = 20$ ,  $20 \div 5 = 4$ ) and can recall them quickly and accurately. They solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

## **Fractions**

Throughout year 2, children develop their understanding of fractions and the link to division. They explore this concept using pictures, images and hands-on resources. They recognise, find, name and write fractions  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  of a length, shape, set of objects or quantity. They count regularly and fluently in fractions such as  $\frac{1}{2}$  and  $\frac{1}{4}$  forwards and backwards to 10 and position them on a number line. They solve problems involving fractions for example,  $\frac{1}{2}$  of 6 marbles = 3 and record what they have done. They recognise the equivalence of  $\frac{2}{4}$  and  $\frac{1}{2}$ .

## **Measurement**

Children choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ( $^{\circ}\text{C}$ ); capacity (litres/ml), time and money to the nearest appropriate unit.

By the end of year 2, they will use measuring apparatus such as rulers, scales, thermometers and measuring vessels accurately. They compare and order lengths, mass, volume/capacity and record the results using  $>$ ,  $<$  and  $=$ .

They recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value and find different combinations of coins that equal the same amounts of money. They solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

They extend their understanding of time to tell, write and draw it on an analogue clock to 5 minute intervals, including quarter past / to the hour. They will know key time related facts (minutes in an hour, hours in a day) and relate this to their everyday life.

## **Geometry**

Children will identify, describe, compare and sort common 2-D and 3-D shapes according to their properties (sides, line of symmetry, vertices, edges and faces) and apply this knowledge to solve simple problems. They develop their understanding by finding examples of 3-D shapes in the real world and exploring the 2-D shapes that can be found on them (e.g. a circle is one of the faces on a cylinder).

Children use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise). They order and arrange combinations of mathematical objects in patterns and sequences.

## **Statistics**

Children interpret and construct simple pictograms, tally charts, block diagrams and simple tables. They ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. They ask and answer questions about totalling and comparing categorical data.

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