



## The Year 2 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 numbers to at least 100 and apply this when ordering, comparing, estimating and rounding. Children begin to understand zero as a place holder as this is the foundation for manipulating larger numbers in subsequent years. Children will count fluently forwards and backwards up to and beyond 100 in multiples of 2, 3, 5 and 10 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 learn that addition and multiplication number sentences can be re-ordered and the answer remains the same (commutativity) such as  $9+5+1=5+1+9$ . They learn that this is not the case with subtraction and division. They solve a variety of problems using mental and written calculations for +, -, x, ÷ in practical contexts. These methods will include partitioning which is where the number is broken up into more manageable parts (e.g.  $64 = 60 + 4$  or  $50 + 14$ ), re-ordering (e.g. moving the larger number to the beginning of the number sentence when adding several small numbers) and using a number line. Children will 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 apply their knowledge of addition and subtraction facts to 20 and can use these to work out facts up to 100.

- **Fractions including decimals**

Throughout year 2, children will develop their understanding of fractions and the link to division. They explore this concept using pictures, images and hands-on resources. They will solve problems involving fractions (e.g. find  $\frac{1}{3}$  of the hexagon or  $\frac{1}{4}$  of the marbles) and record what they have done. They will count regularly and fluently in fractions such as  $\frac{1}{2}$  and  $\frac{1}{4}$  forwards and backwards and, through positioning them on a number line, understand that some have the same value (equivalent) e.g.  $\frac{1}{2} = \frac{2}{4}$ .

### Measurement

Children will estimate, choose, use and compare a variety of measurements for length, mass, temperature, capacity, time and money. By the end of year 2, they will use measuring apparatus such as rulers accurately. They will use their knowledge of measurement to solve problems (e.g. how many ways to make 50p). They extend their understanding of time to tell and write 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, vertices, edges, 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 begin to



describe position, direction and movement in a range of different situations, including understanding rotation (turning through right angles clockwise and anti-clockwise). They use their knowledge of shape in patterns and sequences.

### **Statistics**

Children sort and compare information, communicating findings by asking and answering questions. They will draw simple pictograms, tally charts and tables.

By the end of Year 2, learners who are ready to progress will be able to do the following:

- Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning.
- Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.
- Secure fluency in addition and subtraction facts within 10, through continued practice.
- Add and subtract across 10.
- Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?"
- Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.
- Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.
- Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.
- Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).
- Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.