Overview of Progression in Year 1

Number and place value

During the Foundation Stage, children counted and estimated groups of up to 10 objects. In Year 1, children extend their use of counting numbers to at least 100. They develop recognition of patterns in the number system (including odd and even numbers) by counting in ones, twos, fives and tens. Children use first, second, third for example when ordering items.

Children do not need to recognise the place value of each digit in a two-digit number as they will do this in Year 2. However, they should understand that they can tell whether a number is larger than another by looking at the first digit as well as the second digit.

Addition and subtraction

During the Foundation Stage, children related addition to combining two groups and subtraction to taking away when doing practical activities. In Year 1, children use mathematical statements to record addition and subtraction. They read, interpret and write the symbols +, – and =. Through practice of addition and subtraction, children learn the number trios for numbers to 20 (8 + 5 = 13, 13 – 8 = 5, 13 – 5 = 8). They use different strategies to help them derive number facts, such as adding numbers in any order, or finding a difference by counting up.

Multiplication and division

In Year 1, children are introduced to the concepts of multiplication and division, although they may not use the standard signs (× and ÷) until Year 2. In practical activities, using arrays and physical objects such as blocks, children solve multiplication and division problems using small quantities. With support, children investigate the links between arrays, number patterns and their experience of counting in twos, fives and tens.

Fractions

Children learn to identify halves and quarters by solving practical problems – for example, finding half of a set of ten blocks or a quarter of a square. They learn that the concepts of a half and a quarter apply to objects and quantities as well as to shapes. They link the idea of halves and quarters back to the concepts of sharing and grouping, which they use in their work on multiplication and division. They will build on this in Year 2 when they learn to write simple fractions.

Geometry: properties of shapes

In Year 1, children become familiar with a range of common 2D and 3D shapes, including rectangles, circles and triangles, cuboids, pyramids and spheres. They recognise these shapes in different orientations, sizes and contexts.

Geometry: position and direction

Children continue to use positional language accurately when describing where people or objects are in the environment. They experience the differences between half, quarter and three-quarter turns by practising making these turns in a clockwise direction.

Year 1 Long Term Planning

Number and place value

- Children should practise counting (1, 2, 3), ordering (first, second, third), or to indicate a quantity (3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.
- They should begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by concrete objects and pictorial representations.
- They should practise counting as reciting numbers and counting as enumerating objects, and counting in ones, twos, fives and tens from different multiples to develop their recognition of patterns in the number system (odd and even numbers). They connect these patterns with objects and with shapes, including through varied and frequent practice of increasingly complex questions.
- They recognise and create repeating patterns with objects and with shapes.

Multiplication and division

- Through grouping and sharing small quantities, children should begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.
- They should make connections between arrays, number patterns, and counting in twos, fives and tens.

Measurement

- The pairs of terms mass and weight, volume and capacity, are used interchangeably at this stage.
- Children should move from using and comparing different types of quantities and measures using non-standard units, including discrete (e.g. counting) and continuous (e.g. liquid) measures, to using manageable common standard units.
- In order to become familiar with standard measures, children begin to use measuring tools such as a ruler, weighing scales and containers.
- Children should use the language of time, including telling the time throughout the day, first using o'clock and then half past.

Addition and subtraction

- Children should memorise and reason with number bonds to 10 and 20 in several forms ($9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.
- Children should combine and increase numbers, counting forwards and backwards.
- They should discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms put together, add, altogether, total, take away, distance between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.

Fractions

- Children should be taught half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape. Children connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.

Geometry: position and direction

- Children should use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.
- Children should make half, quarter and three-quarter turns and routinely make these turns in a clockwise direction.

Geometry: properties of shapes

- Children should handle common 2D and 3D shapes, naming these and related everyday objects fluently. They should recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids can be different shapes.