

# Year 4 Long-term planning

## Number and place value

- Using a variety of representations, including measures, children should become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice.
- They begin to extend their knowledge of the number system to include the decimal numbers and fractions that they have met so far.
- They connect estimation and rounding numbers to the use of measuring instruments.
- Roman numerals should be put in their historical context so children understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time.

## Addition and subtraction

- Children should continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (see National Curriculum Appendix 1).

## Multiplication and division

- Children should continue to practise recalling and using multiplication tables and related division facts to aid fluency.
- Children should practise mental methods and extend this to three-digit numbers to derive facts, for example  $200 \times 3 = 600$  into  $600 \div 3 = 200$ .
- Children should practise to become fluent in the formal written method of short multiplication for multiplying using multi-digit numbers, and short division with exact answers when dividing by a one-digit number (see Appendix 1).
- Children should write statements about the equality of expressions (e.g. use the distributive law  $39 \times 7 = 30 \times 7 + 9 \times 7$  and associative law  $(2 \times 3) \times 4 = 2 \times (3 \times 4)$ ). They combine their knowledge of number facts and rules of arithmetic to solve mental and written calculations, e.g.  $2 \times 6 \times 5 = 10 \times 6$ .
- Children should solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. This should include correspondence questions such as the number of choices of a meal on a menu, or three cakes shared equally between 10 children.

## Statistics

- Children should understand and use a greater range of scales in their representations and should begin to relate the graphical representation of data to recording change over time.

## Geometry: position and direction

- Children should draw a pair of axes in one quadrant, with equal scales and integer labels. They should read, write and use pairs of coordinates (2, 5), including using coordinate-plotting ICT tools.

## Fractions (including decimals)

- Children should connect hundredths to tenths and place value and decimal measure.
- Children should extend the use of the number line to connect fractions, numbers and measures.
- Children should understand the relation between non-unit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths.
- Children should make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. Children should use factors and multiples to recognise equivalent fractions and simplify where appropriate.
- Children should continue practice in adding and subtracting fractions with the same denominator, to become fluent through a variety of increasingly complex problems beyond one whole. Children should be taught throughout that decimals and fractions are different ways of expressing numbers and proportions.
- Children's understanding of the number system and decimal place value should be extended at this stage to tenths and then hundredths. This includes relating the decimal notation to division of whole number by 10 and later 100.
- Children should practise counting using simple fractions and decimal fractions, both forwards and backwards.
- Children should learn decimal notation and the language associated with it, including in the context of measurements. They should make comparisons and order decimal amounts and quantities that are expressed to the same number of decimal places. They should be able to represent numbers with one or two decimal places in several ways, such as on number lines.

## Measurement

- Children should build on their understanding of place value and decimal notation to record measures, including money. They should use multiplication to convert from larger to smaller units.
- They should relate area to arrays and multiplication. Perimeter can be expressed algebraically as  $2(a + b)$  where  $a$  and  $b$  are the dimensions in the same unit.

## Geometry: properties of shapes

- Children should continue to classify shapes using geometrical properties, extending to classifying different triangles and quadrilaterals.
- Children should compare and order angles in preparation for using a protractor and compare lengths and angles to decide if a polygon is regular or irregular.
- Children should draw symmetric patterns using a variety of media to become familiar with different orientations of lines of symmetry; and recognise line symmetry in a variety of diagrams, including where the line of symmetry does not dissect the reflected shape.