



# Mathematics: Year 2

## I. NUMBERS AND THE NUMBER SYSTEM

### A. WHOLE NUMBERS

- Read and write numbers to at least 100 in figures and words.
- Count reliably at least 100 objects by grouping them, e.g. in tens, fives or twos.
- Count on or back in ones, twos, fives or tens from any given number.
- Recognise odd and even numbers to at least 100.
- Recognise the place value of each digit in any two-digit number, and partition two-digit numbers into multiples of 10 and 1.
- Compare numbers to at least 100 using the  $<$ ,  $>$ , and  $=$  signs.
- Order a set of numbers to at least 100 and position numbers on a number line or grid.
- Identify ordinal numbers, first (1st) to hundredth (100th).
- Within the range 0 – 100, identify the number that is 1 or 10 more or less than a given number.
- Estimate a number of objects, e.g. up to about 100 objects.
- Round two-digit numbers to the nearest 10.

### B. FRACTIONS

- Find  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$  of shapes and sets of objects.

## II. NUMBER OPERATIONS AND CALCULATIONS

### A. ADDITION AND SUBTRACTION

- Recognise that addition can be done in any order.
- Understand and use the inverse relationship between addition and subtraction.
- Understand that more than two numbers can be added.
- Recall pairs of numbers that total 20.
- Recall all addition and subtraction facts for each number to at least 10.
- Begin to recall all addition and subtraction facts for each number to 20.
- Know addition and subtraction 'fact families' to 10, e.g.  $2 + 3 = 5$ ,  $3 + 2 = 5$ ,  $5 - 3 = 2$ ,  $5 - 2 = 3$ .
- Use known number facts and place value to mentally:
  - add or subtract a one-digit number to or from a two-digit number, e.g.  $14 + 7$ ,  $18 - 6$ ;
  - add a multiple of 10 to a one-digit or two-digit number, e.g.  $60 + 4$ ,  $60 + 24$ ;
  - subtract a multiple of 10 from a two-digit number, e.g.  $58 - 30$ .
- Use informal written methods to add or subtract pairs of two-digit numbers, e.g.  $35 + 68$ ,  $74 - 46$ .

### B. MULTIPLICATION AND DIVISION

- Understand multiplication as repeated addition and arrays, using appropriate vocabulary.
- Understand division as sharing and grouping (repeated subtraction), using appropriate vocabulary.
- Recall multiplication facts for the 2, 5 and 10 times-tables, and the corresponding division facts.
- Recognise multiples of 2, 5 and 10.
- Understand and use the inverse relationship between doubling and halving, and multiplication and division.

### C. MIXED OPERATIONS

- Use the  $+$ ,  $-$ ,  $\times$ ,  $\div$  and  $=$  signs to record calculations, including symbols such as  $\square$ ,  $\circ$  or  $\triangle$  to stand for an unknown number, e.g.  $5 + \circ = 7$ ,  $\square \times 2 = 12$ .

- Use knowledge of number facts, operations and inverse relationships to estimate and check calculations.

### III. MEASUREMENT

#### A. LENGTH, MASS, CAPACITY AND TEMPERATURE

- Choose and use appropriate instruments to measure lengths, masses, capacities and temperatures.
- Estimate, compare and measure lengths, masses, capacities and temperatures using standard units (metre, centimetre, kilogram, litre, degrees Celsius).
- Read relevant scales to the nearest numbered division and interpret the divisions between them.
- Use a ruler to measure and draw lengths to the nearest centimetre.

#### B. TIME

- Use units of time and know the relationship between them, e.g. second, minute, hour, day, week, month, year.
- Compare duration of events, including those that cross the hour.
- Read the time to the quarter hour on an analogue clock and 12-hour digital clock and understand the notation 5:45.

#### C. MONEY

- Identify all coins and notes and begin to use £.p notation.
- Find totals, give change and work out which coins to use.
- Combine coins and notes to make a given value and show different combinations of coins and notes that equal the same value.

### IV. GEOMETRY

#### A. 2-D AND 3-D SHAPES

- Visualise and name common 2-D shapes, including circle, triangle, square, rectangle, pentagon, hexagon and octagon.
- Visualise and name common 3-D solids, including cube, cuboid, sphere, cylinder, cone, square-based pyramid and tetrahedron.
- Use everyday language to describe features of common 2-D shapes, including the number of sides, number of right angles and symmetry.
- Use everyday language to describe features of common 3-D solids, including the shapes of faces, number of faces, edges and vertices.
- Compare and sort common shapes and solids, including those in different orientations and in the environment.
- Use shapes and solids to make patterns, pictures and models, including congruent shapes and designs.

#### B. POSITION, DIRECTION AND MOVEMENT

- Use appropriate mathematical language to describe position, direction and movement.
- Recognise and make whole, half and quarter turns to the left or right and clockwise or anti-clockwise.
- Know that a right angle is a measure of a quarter turn and recognise right angles in rectangles.

#### C. SYMMETRY

- Begin to recognise reflective symmetry.

### V. DATA

- Collect, process, represent, interpret and discuss data in simple ways, such as in a list, table, diagram, pictogram or block graph.

## VI. PROBLEM SOLVING AND REASONING

- Recognise and continue patterns involving numbers or shapes.
- Describe relationships involving numbers or shapes.
- Solve mathematical problems and puzzles involving numbers or shapes.
- Solve problems involving addition, subtraction, multiplication or division in the context of numbers or measurements, including money.