



# The Core Knowledge Sequence UK

## Mathematics: Year 1

### I. NUMBERS AND THE NUMBER SYSTEM

#### A. WHOLE NUMBERS

- Read and write numbers to at least 30 in figures.
- Count reliably at least 30 objects.
- Count on or back in ones, twos, fives or tens.
- Recognise the place value of each digit in a number to at least 30.
- Compare and order numbers to at least 30, using the related vocabulary and the equals (=) sign.
- Use knowledge of place value to position numbers to at least 30 on a number line.
- Identify ordinal numbers, first (1st) to tenth (10th).
- Within the range 0 – 30, identify the number that is 1 more or 1 less than a given number.
- Estimate a number of objects up to about 30 objects.

#### B. FRACTIONS

- Identify  $\frac{1}{2}$  as one of two equal parts of a region or object.
- Find  $\frac{1}{2}$  of a set of objects.

### II. NUMBER OPERATIONS AND CALCULATIONS

#### A. ADDITION AND SUBTRACTION

- Understand addition as counting on and combining two groups of objects, using appropriate vocabulary.
- Understand subtraction as 'take away' and 'difference', using appropriate vocabulary.
- Use the +, – and = signs to record calculations.
- Recall pairs of numbers with a total of 10.
- Recall all addition and subtraction facts for each number to at least 5.
- Begin to recall all addition and subtraction facts for each number to at least 10.
- Use known number facts and place value to add or subtract mentally a pair of one-digit numbers, e.g.  $5 + 7$ ,  $9 - 4$ .
- Use informal written methods to add or subtract.
  - 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.  $58 - 30$ .

#### B. MULTIPLICATION AND DIVISION

- Combine groups of the same size, using practical activities.
- Arrange objects into equal groups, using practical activities.
- Begin to use the vocabulary of multiplication and division.
- Identify doubles of all numbers to at least 10.

### III. MEASUREMENT

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

- Identify familiar instruments of measurement, such as a ruler, scale and thermometer, and be able to describe their uses.
- Compare lengths, masses, capacities and temperatures using appropriate vocabulary.
- Estimate, then measure, while choosing and using suitable, uniform non-standard or standard units and measuring equipment, e.g. straws, interlocking cubes, marbles, yoghurt pots, metre stick, litre jug.
- Begin to use a ruler to measure lengths in centimetres.

#### B. TIME

- Use vocabulary related to time.
- Sequence familiar events in time.
- Compare duration of events.
- Know the days of the week and the months of the year.
- Read the time to the hour and half hour on an analogue clock.

#### C. MONEY

- Identify and use the pound (£) and pence (p) signs and the 1p, 2p, 5p, 10p, 20p, 50p, £1 and £2 coins.
- Find totals and give change.
- Write simple money amounts, e.g. 30p, £4.

### IV. GEOMETRY

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

- Visualise and name common 2-D shapes, including a circle, triangle, square and rectangle.
- Visualise and name common 3-D solids, including a sphere, cylinder, cone, square-based pyramid, cube and cuboid.
- Use everyday language to describe features of common 2-D shapes, including the number of sides and corners.
- Use everyday language to describe features of common 3-D solids, including the shapes of faces and number of faces and corners.
- Recognise common shapes and solids in the environment.
- Use shapes and solids to make patterns, designs, pictures and models.

#### B. POSITION, DIRECTION AND MOVEMENT

- Use everyday language to describe position, direction and movement.

### V. DATA

- Establish concepts of likeness and difference by sorting and classifying objects according to various criteria: size, shape, colour, amount, function, etc.
- Define a set by the common property of its elements.
- In a collection of objects that includes a given set and an item that does not belong, indicate which item does not belong.
- Interpret and construct simple pictograms.

### VI. PROBLEM SOLVING AND REASONING

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