



Mathematics: Year 3

I. NUMBERS AND THE NUMBER SYSTEM

A. WHOLE NUMBERS

- Read and write numbers to at least 1000 in figures and words.
- Count on or back in single-digit steps or multiples of 10 from any given number.
- Count on or back in steps of 10, 50 or 100 from any given number.
- Recognise the place value of each digit in any three-digit number, and partition three-digit numbers into multiples of 100, 10 and 1.
- Compare numbers to at least 1000 using the $<$, $>$, and $=$ signs.
- Order a set of numbers to at least 1000.
- Round two-digit or three-digit numbers to the nearest 10 or 100.

B. FRACTIONS

- Recognise unit fractions such as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$ and $\frac{1}{10}$.
- Use diagrams to compare fractions and establish equivalents.
- Begin to recognise simple fractions that are several parts of a whole, e.g. $\frac{2}{3}$, $\frac{3}{4}$ or $\frac{7}{10}$, interpreting the denominator as the parts of a whole and the numerator as the number of parts.
- Identify pairs of fractions that total 1.
- Find unit fractions of shapes, numbers or quantities, e.g. $\frac{1}{5}$ of 20.

II. NUMBER OPERATIONS AND CALCULATIONS

A. ADDITION AND SUBTRACTION

- Recall sums and differences of multiples of 10.
- Recall all addition and subtraction facts for each number to 20.
- Know addition and subtraction 'fact families' to 20, e.g. $8 + 6 = 14$, $6 + 8 = 14$, $14 - 8 = 6$, $14 - 6 = 8$.
- 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. $63 + 7$, $47 - 6$;
 - add a multiple of 10 or 100 to a one-, two- or three-digit number, e.g. $50 + 6$, $400 + 347$;
 - subtract a multiple of 10 from a two-digit or three-digit number, e.g. $428 - 80$;
 - subtract a multiple of 100 from a three-digit number, e.g. $639 - 500$;
 - add or subtract pairs of two-digit numbers, e.g. $35 + 68$, $74 - 46$.
- Use written methods to:
 - add or subtract a two-digit number to or from a three-digit number, e.g. $647 + 36$, $354 - 78$;
 - add or subtract pairs of three-digit numbers, e.g. $273 + 436$, $364 - 189$.

B. MULTIPLICATION AND DIVISION

- Understand and use the principles (but not the names) of the commutative, associative and distributive laws as they apply to multiplication:
 - example of commutative law: $6 \times 15 = 15 \times 6$
 - example of associative law: $6 \times 15 = 6 \times (5 \times 3) = (6 \times 5) \times 3 = 30 \times 3 = 90$
 - example of distributive law: $8 \times 17 = 8 \times (10 + 7) = (8 \times 10) + (8 \times 7) = 80 + 56 = 136$
- Recall multiplication facts for the 2, 3, 4, 5, 8 and 10 times-tables, and the corresponding division facts.
- Recognise multiples of 2, 5 or 10 up to 1000.

- Multiply one-digit and two-digit numbers by 0, 1, 10 or 100, and understand the effect.
- Solve simple division calculations involving remainders, rounding up or down depending on the context.
- Use informal written methods to multiply or divide a two-digit number by a one-digit number, e.g. 24×3 , $37 \div 5$.

C. MIXED OPERATIONS

- Use the +, −, ×, ÷ and = signs to record calculations, including symbols such as □, ○ or △ to stand for an unknown number, e.g. $15 + \square = 47$, $28 \div \bigcirc = 7$.
- Use knowledge of number operations and inverse relationships to estimate and check calculations.

III. MEASUREMENT

A. LENGTH, MASS, CAPACITY AND TEMPERATURE

- Recognise and use abbreviations for metric units of measure: km, m, cm, kg, g, l, ml, °C.
- Estimate, measure and record lengths, masses, capacities and temperatures using standard units (km, m, cm, kg, g, l, ml, °C).
- Know the relationship between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.
- Read, to the nearest division and half-division, scales that are numbered or partially numbered.

B. TIME

- Use a calendar to identify and record the date, day of the week, month and year.
- Compare duration of events and calculate time intervals.
- Read the time to 5 minutes on an analogue clock and 12-hour digital clock and understand the notation 8:25.
- Understand noon and midnight and distinguish time as am or pm.

C. MONEY

- Recognise relative values of all coins and notes.
- Begin to add and subtract amounts of money to find totals and give change, using £.p notation where appropriate.

IV. GEOMETRY

A. 2-D AND 3-D SHAPES

- Identify, visualise, describe, classify, draw and make 2-D shapes and 3-D solids.

B. POSITION, DIRECTION AND MOVEMENT

- Read and write the vocabulary of position, direction and movement.
- Identify lines as horizontal, vertical, diagonal, perpendicular and parallel.
- Describe and find the position of a square on a grid of squares with the rows and columns labelled.
- Recognise and use the four compass directions. [Cross-curricular connection with Year 1 Geography]
- Identify right angles in 2-D shapes and the environment.
- Recognise whether an angle is greater or smaller than a right angle.
- Recognise that a straight line is equivalent to two right angles.
- Use a set-square to draw right angles.

C. SYMMETRY

- Identify and draw lines of symmetry in simple shapes.
- Recognise shapes with no lines of symmetry.

- Draw the reflection of a shape or pattern in a mirror line along one side.

V. DATA

- Collect, process, represent, interpret and discuss data in a tally chart, frequency table, pictogram or bar chart.
- Read, interpret and represent data:
 - where symbols represent more than one unit, e.g. 2 or 5;
 - where scales have intervals of differing step size, e.g. axis labelled in 2s or 5s.
- Use Venn and Carroll diagrams to sort objects and data.

VI. PROBLEM SOLVING AND REASONING

- Identify and describe numerical and symbolic patterns and relationships.
- Solve mathematical problems and puzzles involving numbers or shapes.
- Solve one-step and two-step problems involving addition, subtraction, multiplication and division in the context of numbers or measurements, including money.