- Compare and order the weight of three or more items
  - Compare and order the capacity of three or more containers
  - Sequence everyday activities and events
  - Use simple timing methods to measure short periods of time
  - Know some of the important months of the year, including birthdays and festivals

- relate to doubling
- Share objects equally between two and relate to halving

### Shape, pattern and position

**Summer Term 2** 

- Sort and re-sort shapes and describe properties
- Name shapes, describing some generalised properties of each shape
- Make repeating patterns with shapes
- Identify shapes in different positions and orientations
- Recognise the face shapes of solid shapes
- Recognise simple shapes and objects that show reflection and symmetry

#### Addition and subtraction (4)

- Combine and count all the objects in two sets to make a total up to 10, counting on from the largest set
- Use a number line to add and subtract numbers
- Find the difference between two lines of cubes by comparing and counting
- Solve problems involving a 'hidden' number of objects and totals
- Know some pairs of numbers that total five

#### Measures and time (3)

- Use uniform non-standard units such as cubes to measure lengths
- Use uniform non-standard units on a balance to measure weights
- Use the language of approximation to compare capacities and check by pouring
- Recognise a minute as a unit of time
- Recognise some hour times on analogue and digital clocks

- Add one more to a set of objects to 5 and say how many

Build and describe models

- Sort objects in different ways

sorted in that way

made with boxes and objects

and describe why they were

- Take one away from a set of objects to 5 and say how many
- Combine and count all the objects in two sets to make a total up to 5
- Partition numbers to 5 in different way

- Know the value of 1p, 2p, 5p and 10p coins

# Unit 1 Number and place value (1) Year 1 of objects stays the same any given number order numbers to 20. number to 20 on and recognise that order facts Unit 3 Shapes and patterns (1)

- Count reliably at least 20 objects, recognising that when rearranged the number
- Count to and across 20, forwards and backwards, beginning with 0 or 1, or from
- Read, write, compare and partitioning 'teen' numbers

#### Unit 2 Addition and subtraction (1)

- Say the number that is one more or less than any given
- Relate addition to counting addition can be done in any
- Use practical and informal written methods to derive and recall number bonds to 10 and related subtraction

- Describe and arrange simple patterns involving objects and shapes
- Recognise and name common 2-D and 3-D shapes and describe their features; use them to make patterns, pictures and models

#### Unit 4 Measures (1)

- Estimate, compare and describe length, height, mass and capacity
- Measure length, height, mass and capacity choosing and using suitable uniform nonstandard or standard units and measuring instruments

#### Unit 5 Fractions, position and movement (1)

- Recognise a half as one of two equal parts of an object, shape or quantity
- Group and share equally a small number of objects and relate to halves
- Visualise and use everyday language to describe the position, direction and movement of objects, including full and half-turns
- Sequence events in chronological order

#### Unit 6 Number and place value (2)

- Count to 50, forwards and backwards, beginning with 0 or 1, or from any given number
- Read, write, compare and order numbers to 50
- Say the number that is one more or less than any given number to 50
- Recognise and know the value of coins

#### Unit 7 Addition and subtraction (2)

- Use the addition (+), subtraction (-) and equals (=) signs
- Find the total by combining two groups
- Understand subtraction as take away
- Derive and recall number bonds to 10 and related subtraction facts

### **Unit 8 Multiplication and division**

- Describe simple patterns and relationships involving numbers
- Count on or back in ones, twos and tens
- Recall the doubles of all numbers to at least ten
- Group small quantities into twos and share equally

#### Unit 9 Shapes and patterns (2)

- Describe and arrange simple patterns involving objects and shapes
- Recognise and name common 2-D and 3-D shapes and describe their features; use them to make patterns, pictures and models

#### Unit 10 Measures (2)

- Estimate, compare and describe length, height, mass and capacity
- Measure length, height, mass and capacity choosing and using suitable uniform nonstandard or standard units and measuring instruments

#### Unit 11 Fractions, position and movement (2)

- Recognise and name a half as one of two equal parts of an object, shape or quantity
- Recognise and name a quarter as one of four equal parts of an object, shape or quantity
- Group and share equally a small number of objects and relate to halves
- Visualise and use everyday language to describe the position, direction and movement of objects
- Identify objects that turn; recognise and make whole, half and quarter-turns
- Use vocabulary related to time; order days of the week and months; read the time to the hour

#### **Unit 12 Multiplication and division** (2)

- Count on or back in ones. twos, fives and tens and use this knowledge to derive the multiples of two, five and ten
- Recall the doubles of all numbers to at least ten
- Group small quantities into 2s, 5s and 10s and share them equally

#### Unit 13 Number and place value (3)

- Count to 100, forwards and backwards from any given number
- Read, write, compare and order numbers to 100
- Read and write number words to 20
- Say the number that is one more or less than any given number to 100
- Recognise and know the value of different denominations of coins and notes

#### Unit 14 Addition and subtraction (3)

- Represent and use number bonds to 20 and related subtraction facts
- Use the addition (+), subtraction (-) and equals (=)
- Add and subtract one-digit and two-digit numbers to 20 (9 + 9, 18 - 9), including zero

#### Unit 15 Shapes and patterns (3)

- Describe and arrange simple patterns involving objects and shapes
- Recognise and name common 2-D and 3-D shapes and describe their features; use them to make patterns, pictures and models

#### Unit 16 Measures (3)

- Estimate, compare and describe length, height, mass and capacity
- Measure length, height, mass and capacity choosing and using suitable uniform nonstandard or standard units and measuring instruments

#### Unit 17 Multiplication and division (3)

- Count on or back in ones, twos, fives and tens and use this knowledge to derive the multiples of 2, 5 and 10 to the tenth multiple
- Solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups
- Recall the doubles of all numbers to at least 10

#### Unit 18 Fractions, position and movement (3)

- Recognise, find and name a half as one of two equal parts of an object, shape or quantity
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
- Visualise and use everyday language to describe the position, direction and movement of objects
- Recognise and make whole, half, quarter and threequarter turns
- Order days of the week and months and read the time to the hour and half hour

#### Unit 1 Number and place value (1) Year 2

- Count in steps of 1, 2, 5 and 10, from any number forwards or backwards
- Read and write two-digit numbers as numerals and in words
- Recognise the place value of each digit in a two-digit number

#### Unit 4 Measures (1)

- Estimate, compare and order length, height, mass and capacity
- Measure length, height, mass and capacity choosing and using suitable standard units and measuring instruments
- Read the numbered divisions on a scale and interpret the divisions between them

#### Unit 7 Addition and subtraction (2)

- Add or subtract mentally a one-digit number or a multiple of 10 to or from any two-digit number
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

#### Unit 10 Measures (2)

- Estimate, compare and order length, height, mass and capacity
- Measure length, height, mass, capacity and temperature, choosing and using suitable standard units and measuring instruments

#### Unit 13 Number and place value (3)

- Read and write numbers up to and beyond 100
- Describe and extend number sequences, including counting in 3s
- Explain what each digit in a two-digit number represents, demonstrating their understanding using different representations

#### Unit 16 Measures (3)

- Estimate, compare and order length, height, mass and capacity
- Measure length, height, mass, capacity and temperature, choosing and using suitable standard units and measuring instruments

 Compare and order two-digit numbers

#### Unit 2 Addition and subtraction (1)

- Add and subtract one-digit and two-digit numbers to 20 (9 + 9, 18 - 9), including zero
- Use the addition (+), subtraction (-) and equals (=) signs
- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- Understand that subtraction is the inverse of addition and vice versa
- Find the difference between two numbers by counting on

#### Unit 3 Shapes and patterns (1)

- Describe patterns and relationships involving shapes, make predictions and test these with examples
- Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of them in different positions and orientations
- Sort, make and describe 2-D and 3-D shapes, referring to their properties

 Use a ruler to draw and measure lines to the nearest centimetre

### Unit 5 Fractions, position and movement (1)

- Recognise, find, name and write one-half and onequarter of shapes, lengths and quantities
- Recognise and use whole, half, quarter and threequarter turns, both clockwise and anticlockwise
- Describe, follow and give instructions involving position, direction and movement
- Use units of time and know the relationships between them
- Read and write the time to the quarter hour

#### Unit 6 Number and place value (2)

- Read and write numbers to 100 and beyond as numerals and in words
- Describe and extend number sequences and recognise odd and even numbers
- Explain what each digit in a two-digit number represents
- Partition two-digit numbers in different ways, including into multiples of 10 and 1
- Use the greater than (>) and less than (<) signs</li>
- Recognise and use symbols for pounds (£) and pence (p) and combine amounts to make a particular value

- Use practical and informal written methods to add and subtract two-digit numbers
- Recognise and use the inverse relationship between addition and subtraction
- Add and subtract money of the same unit, including giving change

### Unit 8 Multiplication and division (1)

- Count on or back in twos, fives and tens and use this knowledge to derive the multiples of 2, 5 and 10 to the tenth multiple and beyond
- Represent repeated addition and arrays as multiplication, and sharing and repeated subtraction (grouping) as division
- Derive and recall multiplication facts for the 2, 5 and 10 times-tables and the related division facts
- Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves
- Use the symbols ×, ÷ and = to record and interpret number sentences

#### Unit 9 Shapes and patterns (2)

- Describe patterns and relationships involving shapes, make predictions and test these with examples
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Sort, make and describe 2-D and 3-D shapes, referring to their properties
- Identify reflective symmetry in patterns and

- Read the numbered divisions on a scale and interpret the divisions between them
- Use a measuring jug to measure the capacity of different containers

### Unit 11 Fractions, position and movement (2)

- Recognise, find, name and write one-half, one-quarter and three-quarters of shapes, lengths and quantities
- Recognise and use whole, half, quarter and threequarter turns, both clockwise and anticlockwise
- Know that a right angle represents a quarter turn
- Describe, follow and give instructions involving position, direction and movement
- Use units of time and know the relationships between them
- Read and write the time to the quarter hour

### Unit 12 Multiplication and division (2)

- Recognise and use the inverse relationship between multiplication and division in calculations
- Recall and use multiplication facts for the 2, 5 and 10 times-tables and the related division facts
- Show that multiplication of two numbers can be done in of one number by another cannot
- Recognise multiples of 2, 5 and 10

- Partition two-digit numbers in different ways, using multiples of 10 and 1
- Compare and order numbers and estimate numbers represented on a number line

#### Unit 14 Addition and subtraction (3)

- Add or subtract mentally a one-digit number or a multiple of 10 to or from any two-digit number
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- Use the inverse relationship between addition and subtraction to calculate the value of an unknown in a number sentence (e.g. □ + 2 = 14, 30 □ = 24)
- Use more formal written methods to add and subtract two-digit numbers
- Add and subtract money of the same unit, including giving change

#### Unit 15 Shapes and patterns (3)

- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify and describe the properties of 2-D shapes, including 2-D shapes on the surface of 3-D shapes
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes

- Read the numbered divisions on a scale and interpret the divisions between them
- Use weighing scales to measure the mass of different objects

#### Unit 17 Multiplication and division (3)

- Use practical and informal written methods and related vocabulary to support multiplication and division, including calculations with remainders
- Use the symbols ×, ÷ and = to record and interpret number sentences and calculate the value of an unknown in a number sentence (e.g.
   □ ÷ 2 = 6, 3 x □ = 30)
- Recall and use multiplication facts for the 2, 5 and 10 timestables and the related division facts
- Recognise multiples of 2, 5 and 10 beyond the 10th multiple

### Unit 18 Fractions, position and movement (3)

- any order (commutative) and division Recognise, find, name and write one-half, onequarter, three-quarters and one-third of shapes, lengths and quantities
- Recognise the equivalence of two quarters and one half
- Recognise and use whole, half, quarter and three-quarter turns, both clockwise and anticlockwise
- Know that a right angle represents a quarter turn and that two right angles make a straight line
- Describe, follow and give instructions involving position, direction and movement
- Read and write the time to five minutes
- Identify time intervals, including those that cross the hour

Year	Unit 1 Number and place value (1)

3

- Count from and back to zero in single-digit steps or multiples of 10
- Partition two-digit numbers into multiples of 10 and 1 in different ways
- Recognise the place value of each digit in a three-digit number
- Read, write and order whole numbers to 1000 and position them on a number line

#### Unit 2 Addition and subtraction (1)

- Derive and recall all addition and subtraction facts for each number to 20, and sums and differences of multiples of 10 and 100
- Use the inverse relationship between addition and subtraction to calculate the value of an unknown in a number sentence (e.g. □ + 2 = 14, 30 □ = 24)
- Use formal written methods to add and subtract two-digit numbers and three digit numbers
- Recognise the value of coins and add and subtract money, including giving change

#### Unit 3 Shape and symmetry (1)

- Draw 2-D shapes and make 3-D shapes using modelling materials
- Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise and classify the shapes
- Recognise, draw and complete shapes with reflective symmetry

#### Unit 4 Measures (1)

- Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres
- Choose and use appropriate units to estimate, measure and record measurements
- Read, to the nearest division and half-division, scales that are numbered or partially numbered
- Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock
- Compare durations of events and calculate the time taken by particular events or tasks

#### Unit 5 Multiplication and division (1)

- Know the number of seconds in a minute and the number of days in each month, year and leap year
- Recall and use multiplication facts for the 2, 3, 4, 5 and 10 times-tables and the related division facts
- Recognise multiples of 2, 3, 4,
   5 and 10 beyond the 10th multiple
- Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences
- Use practical and informal written methods to multiply and divide two-digit numbers (e.g. 13 × 3, 48 ÷ 4)

#### Unit 6 Fractions and decimals (1)

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts
- Recognise, find and write unit fractions of numbers and

### Unit 7 Position, movement and angle (1)

2-D shapes and draw lines of symmetry in shapes

- Recognise angles as a property of shape and associate angles with turning
- Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn
- Use the four compass directions to describe movement
- Identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.

#### Unit 8 Shape and symmetry (2)

- Draw 2-D shapes and make
   3-D shapes using modelling materials
- Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise and classify the shapes
- Draw the reflection of a shape in a mirror line along one side

#### Unit 9 Fractions and decimals (2)

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing onedigit numbers or quantities by 10
- Read and write proper fractions (e.g. 3/7, 9/10), interpreting the denominator as the parts of a whole and the numerator as the number of parts
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

#### Unit 10 Measures (2)

- Estimate, measure and compare lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- Know the relationships 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
- Estimate, read, record and compare times to the nearest
   5 minutes, using analogue and digital clocks
- Compare durations of events and calculate the time taken by particular events or tasks

### Unit 11 Multiplication and division (2)

- Recall and use multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the related division facts
- Recognise multiples of 2, 3, 4,
   5, 6 and 10 beyond the 10th multiple
- Develop efficient mental methods to multiply larger numbers
- Use reliable written methods to multiply and divide twodigit numbers (e.g. 23 × 3, 50 ÷ 4) and round remainders up or down, depending on the context

#### Unit 12 Number and place value (2)

- Count on from and back to zero in single-digit steps or multiples of 10 and 100
- Partition three-digit numbers into multiples of 100, 10 and 1 in different ways
- Read, write, compare and order whole numbers to at least 1000

#### Unit 13 Addition and subtraction (2)

- Add or subtract mentally three-digit numbers and ones, tens and hundreds
- Add or subtract two-digit numbers mentally
- Use formal written methods to add and subtract numbers with up to three digits
- Add and subtract amounts of money to give change, using both £ and p in practical contexts

#### Unit 14 Shape and symmetry (3)

- Draw 2-D shapes and make 3-D shapes using modelling materials
- Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise and classify the shapes
- Draw the reflection of a shape in a mirror line along one side
- Measure the perimeter of simple 2-D shapes

#### Unit 15 Measures (3)

- Estimate, measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres
- Read scales that are numbered or partially numbered; use the information to measure to a suitable degree of accuracy
- Estimate, read, record and compare times to the nearest minute, using analogue and digital clocks
- Compare durations of events and calculate the time taken by particular events or tasks

#### Unit 16 Multiplication and division (3)

- Calculate the value of an unknown in a number sentence (e.g. □ ÷ 4 = 6, 3 x □ = 36)
- Recall and use multiplication facts for the 2, 3, 4, 5, 6, 8 and 10 timestables and the related division facts
- Recognise multiples of 2, 3,
   4, 5, 6 and 10 beyond the
   10th multiple
- Develop efficient mental methods to multiply larger numbers
- Use reliable written methods to multiply and divide two-digit numbers (e.g. 23 × 3, 50 ÷ 4) and round remainders up or down, depending on the context

#### Unit 17 Fractions and decimals (3)

- Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators
- Use diagrams to recognise and show equivalent fractions
- Compare and order unit fractions with the same denominator
- Add and subtract fractions
   with the same denominator
   within one whole (eg 5/7 + 1/7 = 6/7)
- Connect tenths to place value and decimal measures, not restricted to decimals between 0 and 1 inclusive and to division by 10

### Unit 18 Position, movement and angle (2)

 Recognising angles as a property of shape and associate angles with turning

quantities (e.g. 1/2, 1/3, 1/4 and 1/6 of 12 litres)
<ul> <li>Read and write proper fractions (e.g. 3/7, 9/10),</li> </ul>
interpreting the denominate

- tor as the parts of a whole and the numerator as the number of parts
- Use diagrams to recognise Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences

- Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn
- Use the four compass directions to describe movement about a grid
- Identify horizontal, vertical, perpendicular and parallel lines in relation to other lines

### Unit 1 Number and place value (1)

- Recognise the place value of each digit in a four-digit
- Compare, order and round four-digit whole numbers
- Count forwards and backwards in tens, hundreds and thousands and other multiples
- Multiply and divide numbers to 1000 by 10 and then 100 (whole-number answers), understanding the effect
- Use positive and negative numbers in context and position them on a number line
- Read Roman numerals to 20 (I to XX)

#### Unit 2 Addition and subtraction (1)

- Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000
- Add or subtract mentally pairs of two-digit whole numbers
- Use efficient written methods to add and subtract threedigit whole numbers and £.p

#### Unit 3 Shape and symmetry (1)

- Compare and draw polygons and classify them by identifying their properties
- Visualise 3-D objects from 2-D drawings and make 3-D models using construction kits
- Identify lines of symmetry in 2-D shapes

#### Unit 4 Measures (1)

- Choose and use standard metric units and their abbreviations when estimating, measuring and recording length, mass and capacity
- Interpret intervals and divisions on partially numbered scales and record readings accurately
- Read time to the nearest minute; use a.m., p.m. and 12-hour clock notation
- Choose units of time to measure time intervals and calculate time intervals from clocks and timetables

#### Unit 5 Multiplication and division (1)

- Recall multiplication facts up to  $12 \times 12$  and derive the corresponding division facts
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- Use written methods to record and explain multiplication of two-digit numbers by a one-digit number
- Use written methods to record and explain division of three-digit numbers by a onedigit number, with whole number answers

#### Unit 6 Fractions and decimals (1)

Count in tenths and recognise the equivalence between

#### Unit 7 Position, movement and angle (1)

Recognise horizontal, vertical, perpendicular and parallel lines in relation to other lines

and show equivalent

fractions

- Identify acute, obtuse and right angles
- Know that angles are measured in degrees and that one whole turn is 360°
- Use the eight compass points to describe direction
- Describe and identify positions and plot points on a grid of squares

#### Unit 8 Shape and symmetry (2)

- Compare and draw polygons and classify them by identifying their properties
- Visualise 3-D objects from 2-D drawings and make 3-D models using construction kits
- Identify lines of symmetry in 2-D shapes and patterns
- Identify right angles in 2-D

shapes

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

#### Unit 9 Fractions and decimals (2)

- Count in tenths and hundredths and recognise the equivalence between decimal and fraction forms of tenths and hundredths
- Compare, order and round decimal numbers with one decimal place

#### Unit 10 Measures (2)

- Choose and use standard metric units and their abbreviations when estimating, measuring and recording length, mass and capacity
- Interpret intervals and divisions on partially numbered scales and record readings accurately, where appropriate to the nearest tenth of a unit
- Use decimal notation for tenths and relate the notation to measurement
- Read time to the nearest minute; use a.m., p.m. and 12-hour clock notation
- Choose units of time to measure time intervals and calculate time intervals from clocks and timetables

#### Unit 11 Multiplication and division (2)

- Recall multiplication facts up to 12 × 12 and derive the corresponding division facts
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- Use written methods to record and explain multiplication of two-digit numbers by a one-digit number
- Use written methods to record and explain division of three-digit numbers by a one-

#### Unit 13 Addition and subtraction (2)

- Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000
- Add or subtract mentally pairs of two-digit whole numbers
- Use efficient written methods to add and subtract four-digit whole numbers and £.p
- Use knowledge of rounding, number operations and inverses to estimate and check calculations

#### Unit 14 Shape and symmetry (3)

- Compare and draw polygons and classify them by identifying their properties, including their line symmetry
- Visualise 3-D objects from 2-D drawings and make 3-D models using construction kits
- Make nets of common solids
- Identify lines of symmetry in 2-D shapes and patterns
- Identify right angles, acute angles and obtuse angles in 2-D shapes
- Find the area of rectilinear shapes by counting squares

#### Unit 15 Measures (3)

- Use decimal notation for tenths and hundredths and relate the notation to money and measurement
- Choose and use standard metric units and their abbreviations when estimating, measuring and

#### Unit 16 Multiplication and division (3)

- Recall multiplication and division facts up to 12 × 12
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- Use written methods to record and explain multiplication and division of three-digit numbers by a one-digit number, including division with remainders

#### Unit 17 Fractions and decimals (3)

- Recognise the equivalence between decimal and fraction forms of one half, quarters, tenths and hundredths
- Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths
- Interpret mixed numbers and position them on a number line
- Find fractions of numbers, quantities or shapes
- Add and subtract fractions with the same denominator

#### Unit 18 Position, movement and angle (2)

- Recognise horizontal, vertical, perpendicular and parallel lines in relation to other lines
- Identify acute and obtuse angles and compare and order angles less than 180°
- Use the eight compass points to describe direction

- Complete symmetrical patterns drawn on squared paper
- Identify right angles in 2-D shapes
- decimal and fraction forms of tenths
- Use diagrams to identify equivalent fractions
- Identify pairs of fractions that total 1
- Find fractions of numbers, quantities or shapes
- Use diagrams to identify equivalent fractions
- Find fractions of numbers, quantities or shapes
- Use diagrams to add and subtract pairs of fractions with the same denominator
- digit number, with whole number answers
- Use knowledge of rounding, number operations and inverses to estimate and check calculations

#### Unit 12 Number and place value (2)

- Compare and order decimals with two decimal places
- Round decimals with one decimal place to the nearest whole number
- Use decimal notation for money and measures and position decimals on a number line
- Multiply and divide numbers to 1000 by 10 and 100, including decimal answers
- Use positive and negative numbers in context and position them on a number line
- Recognise and continue number sequences formed by counting on or back in steps of constant size
- Read Roman numerals to 100 (I to C)

- recording length, mass and capacity
- Know the meaning of 'kilo', 'centi' and 'milli' and, where appropriate, use decimal notation to record measurements (e.g. 1.3 m or 0.6 kg)
- Interpret intervals and divisions on partially numbered scales and record readings accurately, where appropriate to the nearest tenth of a unit
- Read, write and convert time between analogue and digital 12 and 24-hour clocks
- Choose units of time to measure time intervals and calculate time intervals from clocks and timetables

- Describe and identify positions and plot points on a grid of squares as coordinates in the first quadrant
- Describe movements between positions as translations of a given unit to the left/right and up/down

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#### Unit 1 Number and place value (1)

- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers
- Use understanding of place value to multiply and divide whole numbers and decimals by 10, and 100

#### Unit 2 Addition and subtraction (1)

- Use knowledge of place value and addition and subtraction of two-digit numbers to mentally calculate sums and differences of larger numbers and decimals
- Use efficient written methods to add and subtract whole numbers with more than four

#### Unit 4 Measures (1)

- Read, choose, use and record standard metric units to estimate and measure length, weight and capacity to a suitable degree of accuracy
- Convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre)
- Interpret a reading that lies between two unnumbered divisions on a scale
- Draw and measure lines to the nearest millimetre
- Measure and calculate the perimeter of rectangles

#### Unit 5 Multiplication and division (1)

- Recall multiplication and division facts up to 12 × 12
- Use place value, known and derived facts to multiply and

#### Unit 7 Patterns and number (1)

- Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards
- Recognise and describe linear number sequences, including those involving fractions and decimals
- Read Roman numerals to 1000 (M)
- Identify multiples and factors, including finding all factor pairs
- Know and use the vocabulary of prime numbers and establish whether a number up to 20 is prime
- Recognise and use square numbers and the notation for squared

#### Unit 8 Addition and subtraction (2)

#### Unit 10 Measures (2)

- Read, choose, use and record standard metric units to estimate and measure length, weight and capacity to a suitable degree of accuracy
- Convert between different units of measure
- Interpret a reading that lies between two unnumbered divisions on a scale
- Calculate and compare the area of squares and rectangles including using standard units and square centimetres (cm2)
- Read timetables and time using 24-hour clock notation and use a calendar to calculate time intervals

## Unit 11 Multiplication and division (2)

#### Unit 13 Number and place value (2)

- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- Read, write, order and compare numbers with up to three decimal places
- Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 or 1000
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Round decimals with two decimal places to the nearest whole number and to one decimal place

#### Unit 14 Geometry (3)

Identify, visualise and describe properties of

#### Unit 16 Measures (3)

- Read, choose, use and record standard metric units to estimate and measure length, weight and capacity to a suitable degree of accuracy
- Convert larger to smaller units using decimals to one place (e.g. change 2.6 kg to 2600 g)
- Understand and use basic equivalences between metric and common imperial units and express them in approximate terms
- Measure and calculate the perimeter of composite rectilinear shapes
- Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes

- digits and decimals with up to two places
- Add and subtract units of measure (e.g. length, mass, volume, money) using decimal notation

#### Unit 3 Geometry (1)

- Identify, visualise and describe properties of rectangles, triangles, regular polygons and 3-D solids
- Use an angle measurer or protractor to a suitable degree of accuracy
- Know angles are measured in degrees; estimate and measure them and draw a given angle, writing its size in degrees
- Complete patterns with up to two lines of symmetry
- Read and plot coordinates in the first quadrant

- divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- Use written methods to record and explain multiplication and division of three-digit numbers by a onedigit number, including division with remainders

### Unit 6 Fractions, decimals and percentages (1)

- Find simple fractions of numbers and quantities
- Express a smaller whole number as a fraction of a larger one (e.g. recognise that 5 out of 8 is 5/8)
- Find and explore patterns of equivalent fractions
- Recognise the per cent symbol (%) and understand that it relates to 'number of parts per hundred'
- Know percentage and decimal equivalents of fractions with a denominator of a multiple of 100

- Use knowledge of place value and addition and subtraction of two-digit numbers to mentally calculate sums and differences of larger numbers and decimals
- Use efficient written methods to add and subtract whole numbers with more than four digits and decimals with up to two places
- Add and subtract units of measure (e.g. length, mass, volume, money) using decimal notation
- Add and subtract fractions with the same denominator, writing the answer as a mixed number

#### Unit 9 Geometry (2)

- Identify, visualise and describe properties of rectangles, triangles, regular polygons and 3-D solids
- Use knowledge of properties to draw 2-D shapes using given dimensions and angles
- Identify and draw nets of 3-D shapes
- Estimate, draw and measure acute and obtuse angles
- Identify, describe and represent the position of a shape following a reflection or translation
- Read and plot coordinates in the first quadrant

- Multiply and divide numbers mentally drawing upon known facts
- Multiply numbers up to three digits by a one- or two-digit number using an efficient written method, including long multiplication for twodigit numbers
- Divide numbers up to four digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
- Multiply proper fractions and mixed numbers by whole numbers

### Unit 12 Fractions, decimals and percentages (2)

- Find simple fractions and percentages of numbers and quantities
- Use equivalent fractions to compare and order fractions whose denominators are all multiples of the same number
- Understand percentage as the number of parts in every 100 and express tenths and hundredths as percentages
- Recognise mixed numbers and improper fractions and convert from one form to the other
- Know percentage and decimal equivalents of fractions with a denominator of a multiple of 10

- rectangles, triangles, regular polygons
- Use knowledge of properties to draw 2-D shapes using given dimensions and angles
- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
- Measure and compare different angles
- Calculate angles at a point on a straight line
- Identify, describe and represent the position of a shape following a reflection or translation
- Read and plot coordinates in the first quadrant

#### Unit 15 Patterns and number (2)

- Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards
- Recognise and describe linear number sequences and find the term-to-term rule
- Read Roman numerals to 1000 (M) and work out years written in Roman numerals
- Identify pairs of factors of two-digit whole numbers and find common multiples
- Establish whether a number up to 100 is prime and recall prime numbers up to 19
- Recognise and use square numbers and cube numbers, and the notation for squared and cubed

- Recognise and estimate volume (e.g. using 1 cm3 blocks to build cubes and cuboids) and capacity (e.g. using water)
- Read timetables and time using 24-hour clock notation

#### Unit 17 Multiplication and division (3)

- Solve problems involving multiplication and division with larger numbers by decomposing them into their factors
- Multiply numbers up to four digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers
- Divide numbers up to four digits by a one-digit number using an efficient written method of short division and interpret remainders appropriately for the context
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
- Multiply proper fractions and mixed numbers by whole numbers

### Unit 18 Fractions, decimals and percentages (3)

- Find fractions and simple percentages of numbers and quantities
- Know percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.
- Use equivalent fractions to compare and order fractions whose denominators are all multiples of the same number
- Recognise mixed numbers and improper fractions and convert from one form to the other
- Use sequences to scale numbers up or down and solve

Year	
6	

#### Unit 1 Number and place value (1)

- Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
- Use decimal notation for tenths, hundredths and thousandths
- Partition, round and order decimals with up to three places, and position them on the number line
- Use negative numbers in context, and calculate intervals across zero

#### Unit 2 Addition and subtraction (1)

- Find the difference between a positive and a negative number, or two negative numbers, in context
- Perform mental calculations, including with mixed operations, decimals and large numbers
- Use their knowledge of the order of operations to carry out calculations involving the four operations
- Use efficient written methods to add and subtract four-digit numbers and decimals
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use
- Use estimation to check answers to calculations
- Add and subtract fractions with different denominators

#### Unit 3 Geometry (1)

- Identify, visualise and describe properties of regular and irregular polygons
- Use knowledge of properties to draw 2-D shapes accurately using given dimensions and angles

#### Unit 4 Measures (1)

- Select and use standard metric units of measure and convert between units, using decimals to two places (e.g. change 2.75 litres to 2750 ml, or vice versa)
- Read and interpret scales on a range of measuring instruments
- Measure and calculate the perimeter and area of composite rectilinear shapes
- Recognise and calculate volume using 1cm3 blocks to build cubes and cuboids and capacity using water
- Solve problems using timetables and 24-hour clock notation

#### Unit 5 Multiplication and division (1)

- Use knowledge of place value and multiplication facts to 12 × 12 to derive related multiplication and division facts
- Solve problems involving multiplication and division with larger numbers by factorising
- Multiply numbers up to four digits by a one- or two-digit number using an efficient written method
- Divide numbers up to four digits by a one-digit number using an efficient written method of short division
- Interpret remainders in division as whole number remainders, fractions, or by rounding, as appropriate for the context
- Multiply proper fractions and mixed numbers by whole numbers
- Use approximations, inverse operations and tests of divisibility to estimate and check results

#### Unit 7 Patterns and number (1)

- Identify common factors and common multiples of numbers
- Recognise that prime numbers have only two factors and identify prime numbers less than 100
- Express missing number problems algebraically
- Use simple formulae expressed in words
- Generate and describe linear number sequences and generalise to find a 'rule'
- Find pairs of numbers that satisfy number sentences involving two unknowns
- Read years written in Roman numerals

### Unit 8 Addition and subtraction (2)

- Perform mental calculations, including with mixed operations, negative numbers, decimals and large numbers
- Use their knowledge of the order of operations to carry out calculations involving the four operations
- Use efficient written methods to add and subtract large numbers and decimals
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy
- Add and subtract fractions with different denominators and mixed numbers

#### Unit 10 Measures (2)

- Select and use standard metric units of measure and convert between units using decimals to three places
- Measure and calculate using imperial units still in everyday use; know their approximate metric values
- Recognise that shapes with the same areas can have different perimeters and vice versa
- Measure and calculate the area of triangles
- Calculate the volume of cubes and cuboids using centimetre cubed (cm3)

### Unit 11 Multiplication and division (2)

- Use knowledge of place value and multiplication facts to 12 × 12 to derive related multiplication and division facts
- Use knowledge of the order of operations to carry out calculations involving the four operations
- Multiply numbers up to four digits by a two-digit whole number using an efficient written method
- Divide numbers up to four digits by a two-digit whole number using an efficient written method
- Interpret remainders in division as whole number remainders, fractions, or by rounding, as appropriate for the context
- Calculate and interpret the mean as an average

## Unit 12 Fractions, decimals and percentages (2)

 Use common factors to simplify fractions and common multiples to show equivalent fractions

#### Unit 13 Number and place value (2)

- Read, write, order and compare numbers up to at least 10 000 000 and determine the value of each digit
- Identify the value of each digit to three decimal places and use this to help order decimals
- Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
- Round any number to a required degree of accuracy

#### Unit 14 Geometry (3)

- Recognise, describe and build 3-D shapes, including making nets
- Find unknown angles in any triangles, quadrilaterals, and regular polygons
- Find unknown angles where they meet at a point, are on a straight line, and are vertically opposite
- Illustrate and name parts of circles, including radius, diameter and circumference
- Use coordinates in all four quadrants to draw, locate and complete shapes that meet given properties
- Visualise and draw on grids where a shape will be after reflection, after translation, or after rotation through 90° or 180° about its centre or one of its vertices

#### Unit 15 Patterns and number (2)

- Identify common factors and common multiples of numbers
- Recognise that prime numbers have only two factors and identify prime numbers less than 100
- Find the prime factors of twodigit numbers

### Unit 16 Measures (3)

problems involving proportions of quantities

- Select and use standard metric units of measure and convert between units using decimals to three places
- Measure and calculate using imperial units still in everyday use; know their approximate metric values
- Calculate the area of parallelograms
- Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3)

#### Unit 17 Multiplication and division (3)

- Use knowledge of place value and multiplication facts to 12 × 12 to derive related multiplication and division facts involving decimals
- Use knowledge of the order of operations to carry out calculations involving the four operations
- Multiply one-digit numbers with up to two decimal places by whole numbers
- Multiply and divide numbers up to four digits by a two-digit whole number using an efficient written method
- Use written division methods for money and measures where the answer has up to two decimal places
- Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 x 1/2 = 1/8)
- Divide proper fractions by whole numbers (e.g.  $1/3 \div 2 = 1/6$ )

### Unit 18 Fractions, decimals and percentages (3)

 Associate a fraction with division to calculate decimal fraction equivalents (e.g.

- Measure and compare different angles using a protractor
- Calculate angles of triangles and at a point on a straight line
- Use coordinates in the first quadrant to draw, locate and complete shapes that meet given properties
- Draw and translate shapes on a grid

### Unit 6 Fractions, decimals and percentages (1)

- Find fractions and percentages of numbers and quantities (e.g. 7/10 of 90, 20% of 30)
- Use equivalent fractions to compare and order fractions
- Recall and use equivalences between fractions, decimals and percentages
- Recognise mixed numbers and improper fractions and convert from one form to the other
- Solve simple problems involving direct proportion by scaling quantities up or down

#### Unit 9 Geometry (2)

- Compare and classify geometric shapes based on their properties and sizes
- Describe, identify and visualise parallel and perpendicular edges or faces; use these properties to classify 2-D shapes and 3-D solids
- Estimate angles, and use a protractor to measure and draw them, on their own and in shapes
- Calculate angles in a quadrilateral or around a point
- Use coordinates in two quadrants to draw, locate and complete shapes that meet given properties
- Draw, translate and reflect shapes on a grid

- Compare and order fractions, including fractions greater than 1, by converting them to fractions with a common denominator
- Calculate fractions and percentages of wholenumbers, money or measures (e.g. 3/5 of 45, 15% of £40)
- Solve problems involving proportions of quantities
- Use ratio to compare quantities, size and scale drawings

- Express missing number problems algebraically
- Find pairs of numbers that satisfy number sentences involving two unknowns
- Represent and interpret sequences, patterns and relationships and suggest and test hypotheses
- Construct and use simple expressions and formulae in words then symbols

- 0.375) for a simple fraction (e.g. 3/8)
- Calculate fractions and percentages of wholenumbers, money or measures (e.g. 5/8 of 96, 65% of £260)
- Express one quantity as a percentage of another (e.g. express £400 as a percentage of £1000)
- Use ratio to compare quantities, size and scale drawings, including notation a:h
- Solve problems involving proportionality in contexts such as similar shapes and recipes