LONG TERM PLAN Year 2

Number and place value:

- count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
  - ➢ count forwards and backwards in steps of 2 from 0, and count in tens from any number A1/E1
  - ➢ count forwards and backwards in steps of 2 and 5 from 0, and 10, starting from any number A2/E2
  - ➢ count forwards and backwards in steps of 2,3 and 5 from 0, and in tens from any number A3/E3
- recognise the place value of each digit in a two-digit number (tens, ones)
  - ➢ *partition numbers to recognise the place value of each digit in number A1*
  - ➢ *recognise the place value of each digit in numbers up to 50 A2*
  - ➢ recognise the place value of each digit in a two digit numbers up to 100 A3
- identify, represent and estimate numbers using different representations, including the number line
  - ➢ *represent numbers up to 30 using objects, pictures and a number line A1*
  - ➢ *represent and estimate where to put numbers on a number line up to 50 A2*
  - ➢ identify, represent and estimate numbers using different representations, including the number line A3
- compare and order numbers from 0 up to 100; use <, > and = signs
  - ➢ *know the order of numbers up to 100 and compare them using the language greater than, less than and equal to A1/B1*
  - ➢ compare and order numbers from 0-100, using <, > and = signs A2
  - ➢ *complete number sentences using the symbols <,> and = A3*
- read and write numbers to at least 100 in numerals and in words
  - ➢ *read and write numbers up to 50 in numerals and words A1*
  - ➢ *read and write numbers up to 100 on numerals and words A2*
  - ➢ read and write numbers to at least 100 in numerals and words A3
- use place value and number facts to solve problems.
  - ➢ use place value and number facts to solve problems *and explain my methods to the class* A1

Addition, subtraction, multiplication and division:

- solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods
  - ➢ *explain how I solved a problem and say why I did it that way A2*
  - ➢ *explain what different number sentences mean A2*
  - ➢ *speak clearly to the class or group when showing and explaining how I solved a problem or my method for a calculation A2*
  - ➢ *show and explain clearly how I solved a problem A3*
  - ➢ *listen carefully to someone explaining how they solved a problem, and ask a question or suggest another method A3*
  - ➢ solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures C1/C2/C3
  - ➢ solve problems with addition and subtraction through applying an increasing knowledge of mental and written methods C1/C2/C3
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
  - ➢ recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 C1
  - ➢ *derive facts such as using 3 + 7 = 10 and 10 – 7 = 3 to calculate 30 + 70 = 100 and 100 – 70 = 30 C1*
- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 a two-digit number and ones
 a two-digit number and tens
 two two-digit numbers
 adding three one-digit numbers
  - ➢ add and subtract a two digit number and ones using concrete objects, pictorial representations, and mentally A1
  - ➢ add and subtract a 2 digit number and tens using concrete objects, pictorial representations, and mentally A2
  - ➢ add and subtract two 2 digit numbers and add and subtract three 1 digit numbers using concrete objects, pictorial representations, and mentally A3
  - ➢ *start to record addition and subtraction in columns as well as on the number line and with jottings C3*
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
  - ➢ know that addition of two numbers can be done in any order (commutative) *and use this to check my answers* A1
  - ➢ *know that subtraction is the inverse of addition, but has to be done in the correct order A2*
  - ➢ show that addition of two number can be done in any order (commutative) and subtraction of one number from another cannot C2
  - ➢ *check my calculations, including by adding numbers in a different order to check addition (e.g. 5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5) C2/C3*
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
  - ➢ *know that subtraction is the inverse of addition, but has to be done in the correct order A2*
  - ➢ *use the inverse to work out the missing number in a number sentence such as 14 + △ = 35 A3*
  - ➢ *check simple addition and subtraction problems using the inverse A3*
  - ➢ *check my calculations, including by adding to check my subtraction C1/C3*
  - ➢ recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems C1

Multiplication and division

- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
  - ➢ *double numbers up to 20 in my head A1/C1*
  - ➢ *double and halve numbers up to 20 A2/B2/C2*
  - ➢ *double and halve numbers up to 50 A3/B3/C3*

- ➢ recall and use the multiplication and division facts for the 2 times table A1/E1E1
- ➢ recall and use the multiplication and division facts for the 2 and 10 times tables A2/E2
- ➢ recall and use the multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers A3/E3
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
  - ➢ calculate mathematical statements for multiplication and division within the multiplication tables *I know* C1/C2
  - ➢ write mathematical statements using the multiplication (x), division (÷) and equals sign C1/C2/C3
  - ➢ *use a variety of language to describe multiplication and division C1/C2/C3*
- show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
  - ➢ show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot C2/C3
  - ➢ *use inverses in multiplication and division (e.g. 4 x5 = 20 and 20 ÷ 5 = 4) C3*
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
  - ➢ solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts C1/C2/C3
  - ➢ *relate division to fractions (e.g. 40 ÷ 2 = 20, 20 is half of 40)C2/C3*

Fractions (including decimals and percentages)

- *recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity*
  - ➢ recognise, name and write the fractions $\frac{1}{3}$ and $\frac{1}{4}$ of a length, shape set of objects or a quantity D1
  - ➢ recognise, name and write the fractions $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape set of objects or a quantity D2
  - ➢ recognise, name and write the fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape set of objects or a quantity D3
  - ➢ find the fractions $\frac{1}{3}$ and $\frac{1}{4}$ of a length, shape, set of objects or a quantity D1
  - ➢ find the fractions $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or a quantity D2
  - ➢ find the fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or a quantity D3
  - ➢ *count up in halves to 10 starting from any number D1*
  - ➢ *count up in quarters to 10 starting from any number D2*
  - ➢ *count up to 10 in fractions, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalences (e.g. $1\frac{1}{4}$, $1\frac{2}{4}$ (or $1\frac{1}{2}$), $1\frac{3}{4}$, 2) D3*
  - ➢ *know that the same quantity can be split into equal groups in different ways D1*
  - ➢ *share or group objects equally to help me solve fraction problems D1/D2/D3*
  - ➢ *solve problems using $\frac{1}{3}$ and $\frac{1}{4}$ in different contexts D1*
  - ➢ *solve problems using $\frac{2}{4}$ and $\frac{3}{4}$ in different contexts D2*
  - ➢ *solve problems using $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ in different contexts D3*
- *write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.*
  - ➢ *begin to write simple fractions e.g. half of 6 = 3 D2*
  - ➢ write simple fractions for example, $\frac{1}{2}$ of 6 = 3 D3
  - ➢ *begin to understand and recognise that $\frac{2}{4}$ and $\frac{1}{2}$ represent the same quantity D2*
  - ➢ recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ D3

Measurement

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
  - ➢ choose and use the appropriate standards units to estimate & measure length/height in any direction (m/cm) and mass (kg/g) to the nearest appropriate unit, using rulers and *weighing* scales E1
  - ➢ choose and use the appropriate standards units to estimate and measure temperature (°C) and capacity (litres/ml) to the nearest appropriate unit, using thermometers and measuring vessels E2
  - ➢ choose and use the appropriate standards units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels E3
- compare and order lengths, mass, volume/capacity and record the results using >, < and =
  - ➢ compare and order lengths and mass and record the results using >, < and = E1
  - ➢ compare and order volume/capacity *and temperature* and record the results using >, < and = E2
  - ➢ compare and order lengths, mass, volume/capacity and record the results using >, < and = E3
- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
  - ➢ recognise and use symbols for pounds (£) and pence (p) E1
  - ➢ combine amounts of money to make a particular value E2
  - ➢ recognise and use symbols for pounds (£) and pence (p) and combine amounts to make a particular value E3
- find different combinations of coins that equal the same amounts of money
  - ➢ find *two* combinations of coins that equal the same amount of money E1
  - ➢ find *up to three* combinations of coins that equal the same amount of money E2
  - ➢ find different combinations of coins that equal the same amounts of money E3
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- ➢ solve simple problems involving addition and subtraction of money of the same unit, including giving change E2/E3

- compare and sequence intervals of time
  - ➤ compare intervals of time E1
  - ➤ sequence intervals of time E2
  - ➤ compare and sequence intervals of time E3
- tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
  - ➤ tell and write the time using quarter past/to the hour and draw the hands on a clock face to show these times E1
  - ➤ tell and write the time to five minutes, including quarter past/to the hour E2
  - ➤ tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times E3
- know the number of minutes in an hour and the number of hours in a day
  - ➤ know the number of minutes in an hour E1
  - ➤ know the number of minutes in an hour and the number of hours in a day E2

Properties of shape

- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
  - ➤ identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line B1/B3
  - ➤ *draw lines and shapes using straight edges B3*
- identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
  - ➤ identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces B2/B3
- identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
  - ➤ identify 2-D shapes on the surface of 3-D shapes, [for example a circle on a cylinder and a triangle on a pyramid] B2
- compare and sort common 2-D and 3-D shapes and everyday objects
  - ➤ compare and sort 2-D shapes and everyday objects B1
  - ➤ compare and sort 3-D shapes and everyday objects B2
  - ➤ compare and sort 2-D and 3-D shapes and everyday objects B3

Position and direction

- order and arrange combinations of mathematical objects in patterns and sequences
  - ➤ order and arrange a combination of mathematical objects in patterns and sequences B1
  - ➤ order and arrange an *(increasing in number)* combination of mathematical objects in pattern B2
  - ➤ order and arrange combinations of mathematical objects in patterns and sequences *including those in different orientations* B3
- use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)
  - ➤ use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) B1/B2
  - ➤ *use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (e.g. moving myself in turns) B1*
  - ➤ *use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (e.g. moving myself in turns, giving instructions to other pupils to do so) B2*
  - ➤ *use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (e.g. moving myself in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles) B3*

Statistics

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
  - ➤ construct simple pictograms and tally charts E1
  - ➤ interpret simple pictograms and tally charts E1
  - ➤ construct block diagrams and simple tables E2
  - ➤ interpret block diagrams and simple tables E2
  - ➤ construct simple pictograms, tally charts, block diagrams and simple tables E3
  - ➤ interpret simple pictograms, tally charts, block diagrams and simple tables E3
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
  - ➤ ask and answer simple questions by counting the number of objects in each category & sorting these categories by quantity E1/E3
  - ➤ *solve statistics problems by recording, interpreting, collating, organising and comparing information (e.g. using many-to-one correspondence with simple ratios 2, 5 and 10) E1/E2/E3*
- ask and answer questions about totalling and comparing categorical data
  - ➤ ask and answer questions about totalling and comparing categorical data E2/E3