Mathematics Long Term Overview 2024 to 25

Year 3

Counting, properties of numbers and number sequences	Place Value and Ordering and rounding	Understanding addition and subtraction	Rapid recall of addition and subtraction facts and pencil and paper procedures (+ and -)
Count on from 0 in multiples of 2, 3, 4, 5, 8, 50 and 100; find 10 or 100 more or less than a given number Count larger collections by grouping them: for example, in tens, then other numbers. E.g. Can I count 47 objects by grouping them into 5s? 10s? Describe and extend number sequences: count on or back in tens or hundreds, starting from any two-digit or three-digit number. Count on or back in twos starting from any two-digit number, and recognise odd and even numbers to at least 100; Recognise two-digit and three-digit multiples of 2, 5 or 10, and three-digit multiples of 50 and 100.	**Read and write whole numbers to at least 1000 in numerals and in words.** **Compare and order numbers up to 1000, and position them on a number line.** **Recognise the place value of each digit in a three-digit number** and partition three-digit numbers into a multiple of 100, a multiple of ten and units (HTU). Compare two given three-digit numbers, say which is more or less, and give a number which lies between them. **Identify, represent and estimate numbers using different representations.** **Solve number problems and practical problems involving these ideas.**	Extend understanding that more than two numbers can be added; add three or four single-digit numbers mentally, or three or four two-digit numbers with the help of apparatus or pencil and paper and formal written methods. **Estimate the answer of any addition or subtraction calculation using mental methods and use inverse operations to check answers.** Understand that subtraction is the inverse of addition and utilise this to check answers. **Solve problems, including missing number problems using known facts, place value and more complex addition and subtraction.**	**Rapid recall of addition and subtraction facts** Know: all addition and subtraction facts for each number to 20; all pairs of multiples of 100 with a total of 1000 (e.g. 300 + 700). Derive quickly: all pairs of multiples of 5 with a total of 100 (e.g. 35 + 65). **Add and subtract numbers mentally, including:** - **A 3 digit number and ones** - **A 3 digit number and tens** - **3 digit number and hundreds** **Pencil and paper procedures** Use informal and formal pencil and paper methods to support, record or explain HTU + and - TU, HTU + and - HTU. **Add and subtract numbers with up to 3 digits, using formal written methods of column addition and subtraction,** only where a mental method is not appropriate Solve singles and two step problems involving multiplication and division.

Year 3

Understanding multiplication and division	Reasoning and generalising about numbers or shapes/ money and measures	Measurement	Geometry - properties of shapes -
Understanding multiplication and division: Understand multiplication as repeated addition and extend understanding that multiplication can be done in any order. Understand division as grouping (repeated subtraction or sharing). Recognise that division is the inverse of multiplication, and that halving is the inverse of doubling. **Rapid recall of multiplication and division facts** **Recall and use multiplication facts for the 2, 3, 4, 5, 8 and 20 times-tables.** **Through doubling, connect the 2, 4 and 8 multiplication tables and through halving connect the 5 and 10 multiplication tables.** Derive division facts corresponding to the 2, 3, 4, 5, 8 and 10 times tables.; doubles of all whole numbers to at least 20 (e.g. 17 + 17 or 17 x 2); doubles of multiples of 5 to 100 (e.g. 75 x 2, 90 x 2); doubles of multiples of 50 to 500 (e.g. 450 x 2); and all the corresponding halves)e.g. 36/2, half of 130, 900/2). **Pencil and paper procedures (x and ÷)** **Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, using 2 digit x 1 digit numbers, using mental methods and progressing to formal written methods.** **Solve problems, including missing numbers problems involving multiplication and division, including positive integer scaling problems (4 x as high, 8 x as long) and correspondence problems in which n objects are connected to m objects.**	**Solving Problems - Making Decisions** Choose and use appropriate operations (including multiplication and division) to solve word problems, and appropriate ways of calculating: mental, mental with jottings, pencil and paper. Utilise problem solving strategies using all four operations, including finding all possibilities, working backwards, finding rules and describing patters, and making a table or list. **Reasoning or generalising about numbers or shapes** Solve mathematical problems or puzzles, recognise simple patterns and relationships, generalise and predict. Suggest extensions by asking 'What if…?' Investigate a general statement about familiar numbers or shapes by finding examples that satisfy it. Explain methods and reasoning orally and, where appropriate, in writing. **Problems involving 'real life', money and measures:** Solve word problems involving numbers in 'real life', money and measures, using one or more steps, including finding totals and giving change, and working out which coins to pay. Explain how the problem was solved. **Recognise all coins and notes. Understand and use £.p notation (for example, know that £3.06 is £3 and 6p).** Use mental addition and subtraction, simple multiplication and division, to solve word problems involving numbers in 'real life', money or measures, using one or two steps. Find totals, give change, and work out which coins to pay.	**Add and subtracts amounts of money to give change in £ and p in practical contexts.** **Measure the perimeter of simple 2-D shapes.** **Measure, compare, add and subtract: lengths (m/ cm/mm); mass (kg/g); volume/capacity (l/ml),** including using a ruler to draw and measure lines to the nearest half centimetre. Suggest suitable units and measuring equipment to estimate or measure length, mass or capacity and read and begin to write the vocabulary related to these. Read scales to the nearest division (labelled or unlabelled). Record estimates and measurements to the nearest whole or half unit (e.g. 'about 3.5kg'), or in mixed units (e.g. '3m and 20cm'). **Estimate and read time with increasing accuracy to the nearest minute; record and compare time in term of seconds, minutes and hours; use vocabulary of o'clock, am/pm, morning/afternoon, noon/ midnight** **Tell and write the time from an analogue clock including using roman Numerals from I to XII and 12 and 24 hour clocks.** **Know the number of seconds in a minute and the number of days in each month, year and leap year.** **Compare durations of events.**	**Draw 2 shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations.** Classify and describe the properties of 3-D and 2-D shapes, including the hemisphere, prism, semi-circle, quadrilateral referring to properties e.g the number or shapes of faces, the number of sides/edges and vertices, whether sides/edges are the same length and angles greater/less than a right angle. . Identify and sketch lines of symmetry in simple 2D shapes, and recognise shapes with no lines of symmetry. Sketch the reflection of a simple shapes in a mirror line along one edge. **Recognise angles as a property of shape or a description of a turn.** **Identify right angles, recognise that two right angles make a half turn, three make three quarters and four complete a turn; Identify whether angles are greater or less that a right angle.** **Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.** Read and begin to write the vocabulary related to position, direction and movement: for example, describe and find the position of a square on a grid of squares with the rows and columns labelled.

Year 3		
Fractions	**Checking results of calculations**	**Statistics**
Recognise fractions are an equal part of a whole. **Count up and down in tenths; Recognise that tenths arise from breaking down an object into ten equal parts and dividing numbers or quantities by 10.** **Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.** **Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.** **Recognise and show, using diagrams, equivalent fractions with small denominators e.g five tenths and one half, five fifths and one whole.** **Compare and order unit fractions, and fractions with the same denominator.** **Add and subtract fractions with the same denominator within one whole.** **Solve problems and word problems involving all fraction objectives above.** Recognise that unit fractions such as 1/2, 1/3, 1/4, 1/5, 1/10 and use them to find fractions of shapes and numbers. Begin to recognise simple fractions that are several parts of a whole, such as 3/4, 2/3, or 3/10.	Check subtraction with addition, halving with doubling and division with multiplication. Repeat addition or multiplication in a different order. Check with an equivalent calculation.	**Interpret and present data using bar charts, pictograms and tables.** **Solve one and two-step questions [e.g, 'How many more?' And 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.** Pupils understand and use simple scales (e.g 2, 5, 10 units) in bar charts and pictograms with increasing accuracy. Continue to interpret data in many contexts.