



Maths Yearly Overview

Year 2



Autumn Term

Block One: Place value

- Read and write numbers to at least 100 in numerals and words.
- Recognise the place value of each digit in a two-digit number, identifying the tens and ones.
- Represent two-digit numbers using concrete objects, pictorial representations and the number line.
- Partition two-digit numbers into tens and ones in different ways where appropriate.
- Use place value and known number facts to solve problems involving two-digit numbers.
- Compare and order numbers from 0 to 100, using the symbols $<$, $>$ and $=$.
- Explain how they know that one two-digit number is greater than, less than or equal to another by considering the tens and ones.
- Use patterns in the tens and ones digits to predict how numbers will change when counting forwards or backwards
- ongoing - count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward

Block Four: Addition and subtraction

- Add and subtract numbers using concrete objects, pictorial representations and mental methods, including:
 - *a two-digit number and 1s/ two two-digit numbers/ three one-digit numbers.
- Use place value to explain what happens when adding or subtracting 1s from a two-digit number.
- Use known number facts to help add three one-digit numbers efficiently.
- Choose an appropriate method or representation to solve an addition or subtraction calculation and explain the choice.
- Use addition and subtraction facts to solve calculations involving two-digit numbers.
- Use addition to check subtraction calculations and subtraction to check addition calculations.

Block Two: Addition and subtraction

- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
- Add and subtract numbers using concrete objects, pictorial representations and mental methods, including a two-digit number and tens.
- Use known addition and subtraction facts to solve related calculations efficiently.
- Use place value to add and subtract multiples of 10 from two-digit numbers.
- Explain how a known fact can be used to find a related fact.
- Use addition to check subtraction calculations and subtraction to check addition calculations.
- Complete missing numbers in addition and subtraction calculations and explain how the missing number was found.
- Use patterns in related addition and subtraction facts to predict answers to calculations.
- Decide whether statements about addition and subtraction are always, sometimes or never true, and explain how they know.

Block Five: Multiplication and division

ongoing - count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward

- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.
- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.
- Use arrays and equal groups to represent multiplication and division calculations.
- Use repeated addition to represent multiplication and explain how the repeated addition relates to the multiplication calculation.
- Use known multiplication facts to derive related division facts.
- Complete missing numbers in multiplication and division calculations.

Block Three: Measurement- length

- Choose and use appropriate standard units to estimate and measure length and height in any direction, using metres (m) and centimetres (cm).
- Use rulers and other appropriate measuring equipment to measure length and height accurately.
- Estimate the length or height of an object before measuring it and compare the estimate with the actual measurement.
- Measure objects in centimetres and metres and record measurements using the appropriate unit.
- Compare and order lengths and heights and record the results using $>$, $<$ and $=$ where appropriate.
- Choose an appropriate unit to measure a given length or height and explain why it is suitable.
- Identify and explain mistakes when measuring length or height, including incorrect positioning of the ruler or measuring from the wrong starting point.

Block Six: Addition and subtraction

- Solve problems with addition and subtraction, using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
- Apply increasing knowledge of mental and written methods to solve addition and subtraction calculations.
- Show that the addition of two numbers can be done in any order, but subtraction of one number from another cannot.
- Use place value and known number facts to support mental addition and subtraction.
- Choose an appropriate mental or written method to solve an addition or subtraction calculation and explain the choice.
- Identify and correct mistakes in addition and subtraction calculations and explain what went wrong.
- Use the commutative property of addition to find related calculations and solve problems efficiently.



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Spring Term

Block One: Place value

- Compare and order numbers from 0 to 100, using $<$, $>$ and $=$ signs.
- Identify and represent numbers using different representations, including the number line.
- Estimate the position of numbers on a number line and explain how the estimate was made.
- Use place value and known number facts to solve problems, including missing-number problems.
- Use patterns and relationships between numbers to solve problems and make predictions.
- Find numbers that satisfy given conditions, working systematically and using reasoning to explain how they know all possibilities have been found.

Block Two: Addition and subtraction

- Recognise and use the inverse relationship between addition and subtraction to check calculations, solve missing-number problems and explain how the two operations are related.
- Solve problems with addition and subtraction using concrete objects, pictorial representations, mental methods and increasingly efficient written methods, including problems involving numbers, quantities and measures.
- Use known facts, place value and the inverse relationship to calculate efficiently and check whether answers are reasonable.
- Choose an appropriate mental or written method to solve a calculation and explain why the method is effective.
- Solve problems involving missing values
- Solve problems that require finding all possible solutions

Block Three: Fractions

- 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, including finding fractions of both continuous and discrete quantities.
- Write simple fractions of amounts, for example $\frac{1}{2}$ of $6 = 3$, and use practical and pictorial representations to explain how the fraction of an amount has been found.
- Recognise that $\frac{2}{4}$ is equivalent to $\frac{1}{2}$ and use this equivalence to solve simple problems.
- Use shapes, objects, quantities and number lines to represent and compare $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$.
- Solve problems involving finding a fraction of a shape, length, set or quantity, including missing-value problems where the whole or the fraction is unknown.

Block Four: Geometry – position and direction

- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and rotation as a turn, using quarter, half and three-quarter turns, including clockwise and anti-clockwise turns.
- Recognise and describe quarter, half and three-quarter turns and identify these turns in relation to right angles.
- Identify and describe the properties of 2-D shapes, including the number of sides and lines of symmetry in a vertical line.
- Sort and classify 2-D shapes according to their properties and explain how they have been grouped.
- Order and arrange combinations of mathematical objects in patterns and sequences, identifying and describing the pattern or rule.
- Solve problems involving position, direction and shape, including following and giving instructions and identifying missing information.
- Find all possible arrangements or sequences that satisfy given conditions, working systematically and explaining the pattern or rule used.

Block Five: Measurement- Time

- Tell and write the time to five minutes, including quarter past and quarter to the hour, and draw the hands on a clock face to show these times.
- Know the number of minutes in an hour and the number of hours in a day, and use this knowledge to solve problems involving time.
- Read and interpret times shown on analogue clocks and use the position of the hands to describe the time.
- Compare and order different times and describe the intervals between them using appropriate units of time.
- Solve problems involving time, including finding missing times and working out how long an activity takes.
- Use reasoning to solve time problems, including finding all possible times that satisfy given conditions and identifying whether statements about time are always, sometimes or never true.

Block Six: Multiplication and division

- Calculate and interpret mathematical statements for multiplication and division within the multiplication tables, and write them using the multiplication ($\times$), division ($\div$) and equals ($=$) signs.
- Use multiplication and division facts to solve calculations and explain the relationship between the two operations.
- Show that multiplication of two numbers can be done in any order (commutative), but division of one number by another cannot.
- Use arrays, equal groups and pictorial representations to represent multiplication and division calculations and explain what each calculation represents.
- Solve problems involving multiplication and division, including missing-value problems, using known facts and representations to find the solution.



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Block Seven: Measurement- Mass

- Choose and use appropriate standard units to estimate and measure mass (kilograms and grams), using scales accurately.
- Compare and order masses and record the results using $>$, $<$ and $=$, using kilograms and grams where appropriate.
- Use scales and practical equipment to measure mass and record measurements accurately using the appropriate unit.
- Estimate the mass of objects and compare estimates with actual measurements, explaining how the estimate was made.
- Solve problems involving mass, including finding missing values and using information from scales and measurements to find a solution.
- Solve mass problems by finding all possible solutions, identifying patterns and working systematically to explain how they know all possibilities have been found.



Summer Term

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Block One: Measurement- money

- Recognise and use the symbols for pounds (£) and pence (p), combine amounts to make a particular value, and recognise that £1 is equal to 100p.
- Find different combinations of coins that equal the same amount and explain how the amounts are equivalent.
- Use coins and notes to make given amounts and select an appropriate combination of coins and notes for a particular value.
- Solve practical problems involving addition and subtraction of money of the same unit, including finding totals and giving change.
- Solve problems involving money, including finding missing values and determining the amount needed to reach a given total.
- Solve money problems by finding different possible solutions, identifying patterns and working systematically to ensure all possibilities have been found.

Block Two: Geometry – properties of shapes

- Identify and describe the properties of common 3-D shapes, including the number of edges, vertices and faces.
- Identify 2-D shapes on the surfaces of 3-D shapes, for example, a circle on a cylinder and a triangle on a pyramid.
- Compare and sort common 2-D and 3-D shapes and everyday objects according to their properties, explaining the reasons for their classifications.
- Use knowledge of the properties of 2-D and 3-D shapes to identify and describe shapes from clues and descriptions.
- Solve problems involving the properties of shapes, including identifying missing information and finding shapes that satisfy given conditions.
- Find all possible shapes or arrangements that meet given conditions, working systematically and explaining the reasoning used.

Block Three: Geometry- statistics and data

- Interpret and construct simple pictograms, tally charts, block diagrams and tables, using a scale where appropriate.
- Ask and answer simple questions by counting the number of objects in each category and sorting categories by quantity.
- Use data presented in pictograms, tally charts, block diagrams and tables to compare categories and identify the most and least common results.
- Ask and answer questions about data, including questions involving how many more, how many fewer and how many altogether.
- Solve problems by interpreting data, including finding missing information and using data from more than one category to reach a solution.

Block Four: Measurement- temperature and capacity

- Choose and use appropriate standard units to estimate and measure capacity in litres (l) and millilitres (ml), using measuring vessels and recording measurements to an appropriate degree of accuracy.
- Compare and order capacities and record the results using $>$, $<$ and $=$, using litres and millilitres where appropriate.
- Use practical measuring equipment to measure and record capacity, selecting an appropriate unit and measuring vessel for the amount being measured.
- Choose and use appropriate standard units to estimate and measure temperature in degrees Celsius ($^{\circ}\text{C}$), using appropriate measuring equipment.
- Read and record temperatures shown on a scale and compare temperatures using appropriate mathematical language.
- Solve practical problems involving capacity and temperature, including finding missing values and using information from measurements to find a solution.

Block Five: Multiplication and division

- Solve problems involving multiplication and division using concrete materials, arrays, repeated addition, mental methods and known multiplication and division facts, including problems in a range of contexts.
- Represent multiplication and division problems using concrete objects, pictorial representations and arrays, and explain how the representation helps to find the answer.
- Use multiplication and division facts to solve problems efficiently and choose an appropriate method or representation to find a solution.
- Use known multiplication and division facts to find missing numbers and values in calculations and problems.
- Solve multiplication and division problems by finding all possible solutions, using systematic working to show that all possibilities have been considered.

Block Six: Fractions

- 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 that fractions represent equal parts of a whole and identify whether a shape, quantity or set of objects has been divided into equal parts.
- Find fractions of quantities and sets of objects, using concrete materials and pictorial representations to support understanding.
- Recognise and use the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ when finding and describing fractions of shapes, lengths and quantities.
- Solve problems involving fractions, including finding missing values and working out the whole when a fraction of a quantity is known.
- Solve fraction problems by finding all possible solutions, identifying patterns and working systematically to explain how all possibilities have been found.