

Year 2 Maths Curriculum Overview

<p>National Curriculum</p>	<p>Place Value: Pupils should be taught to:</p> <ul style="list-style-type: none">▪ count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward▪ recognise the place value of each digit in a two-digit number (tens, ones)▪ identify, represent and estimate numbers using different representations, including the number line▪ compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs▪ read and write numbers to at least 100 in numerals and in words▪ use place value and number facts to solve problems. <p>Addition and Subtraction: Pupils should be taught to:</p> <ul style="list-style-type: none">▪ 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▪ 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 mentally, including:<ul style="list-style-type: none">▪ a two-digit number and ones▪ a two-digit number and tens▪ two two-digit numbers▪ adding three one-digit numbers▪ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot▪ recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. <p>Multiplication and Division: Pupils should be taught to:</p>	<p><u>Teachers Assessment Framework</u></p> <p>Working Towards Expected Standard: The pupil can:</p> <ul style="list-style-type: none">• read and write numbers in numerals up to 100 #• partition a two-digit number into tens and ones to demonstrate an understanding of place value, though they may use structured resources¹ to support them• add and subtract two-digit numbers and ones, and two-digit numbers and tens, where no regrouping is required, explaining their method verbally, in pictures or using apparatus (e.g. $23 + 5$; $46 + 20$; $16 - 5$; $88 - 30$)• recall at least four of the six² number bonds for 10 and reason about associated facts (e.g. $6 + 4 = 10$, therefore $4 + 6 = 10$ and $10 - 6 = 4$)• count in twos, fives and tens from 0 and use this to solve problems• know the value of different coins• name some common 2-D and 3-D shapes from a group of shapes or from pictures of the shapes and describe some of their properties (e.g. triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres). <p>Working at the Expected Standard:</p>
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- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs
- show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Fractions:

Pupils should be taught to:

- recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity
- write simple fractions for example, $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

Measurements:

Pupils should be taught to:

- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
- compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$
- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- find different combinations of coins that equal the same amounts of money
- solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- compare and sequence intervals of time

The pupil can:

- read scales*1 in divisions of ones, twos, fives and tens
- partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus

- add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. $48 + 35$; $72 - 17$)

- recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If $7 + 3 = 10$, then $17 + 3 = 20$; if $7 - 3 = 4$, then $17 - 3 = 14$; leading to if $14 + 3 = 17$, then $3 + 14 = 17$, $17 - 14 = 3$ and $17 - 3 = 14$)

- recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary

- identify 1 4 , 1 3 , 1 2 , 2 4 , 3 4 of a number or shape, and know that all parts must be equal parts of the whole

- use different coins to make the same amount

- read the time on a clock to the nearest 15 minutes

- name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.

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- 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
- know the number of minutes in an hour and the number of hours in a day.

Geometry Shape:

Pupils should be taught to:

- 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 3-D shapes, including the number of edges, vertices and faces
- identify 2-D shapes on the surface 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.

Position and Direction:

Pupils should be taught to:

- order and arrange combinations of mathematical objects in patterns and sequences
- 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).

Statistics:

Pupils should be taught to:

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.

Working at Greater Depth:

The pupil can:

- read scales* where not all numbers on the scale are given and estimate points in between
- recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts
- use reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. $29 + 17 = 15 + 4 +$; ‘together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?’ etc.)
- solve unfamiliar word problems that involve more than one step (e.g. ‘which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?’)
- read the time on a clock to the nearest 5 minutes
- describe similarities and differences of 2-D and 3-D shapes, using their properties (e.g. that two different 2-D shapes both have only one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices, but different dimensions).

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		Week											
		1	2	3	4	5	6	7	8	9	10	11	12
Autumn		Place Value				Addition and Subtraction					Shape		
		Steps: Step 1 Numbers to 20 Step 2 Count objects to 100 by making 10s Step 3 Recognise tens and ones Step 4 Use a place value chart Step 5 Partition numbers to 100 Step 6 Write numbers to 100 in words Step 7 Flexibly partition numbers to 100 Step 8 Write numbers to 100 in expanded form Step 9 10s on the number line to 100 Step 10 10s and 1s on the number line to 100 Step 11 Estimate numbers on a number line Step 12 Compare objects Step 13 Compare numbers Step 14 Order objects and numbers Step 15 Count in 2s, 5s and 10s Step 16 Count in 3s				Steps: Step 1 Bonds to 10 Step 2 Fact families - addition and subtraction bonds within 20 Step 3 Related facts Step 4 Bonds to 100 (tens) Step 5 Add and subtract 1s Step 6 Add by making 10 Step 7 Add three 1-digit numbers Step 8 Add to the next 10 Step 9 Add across a 10 Step 10 Subtract across 10 Step 11 Subtract from a 10 Step 12 Subtract a 1-digit number from a 2-digit number (across a 10) Step 13 10 more, 10 less Step 14 Add and subtract 10s Step 15 Add two 2-digit numbers (not across a 10) Step 16 Add two 2-digit numbers (across a 10) Step 17 Subtract two 2-digit numbers (not across a 10) Step 18 Subtract two 2-digit numbers (across a 10) Step 19 Mixed addition and subtraction					Steps: Step 1 Recognise 2-D and 3-D shapes Step 2 Count sides on 2-D shapes Step 3 Count vertices on 2-D shapes Step 4 Draw 2-D shapes Step 5 Lines of symmetry on shapes Step 6 Use lines of symmetry to complete shapes Step 7 Sort 2-D shapes Step 8 Count faces on 3-D shapes Step 9 Count edges on 3-D shapes Step 10 Count vertices on 3-D shapes Step 11 Sort 3-D shapes Step 12 Make patterns with 2-D and 3-D shapes		

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		Step 20 Compare number sentences Step 21 Missing number problems			
Spring	Money	Multiplication and Division		Length and Height	Mass and Volume and Temperature
	<p>Steps:</p> <p>Step 1 Count money – pence Step 2 Count money – pounds (notes and coins) Step 3 Count money – pounds and pence Step 4 Choose notes and coins Step 5 Make the same amount Step 6 Compare amounts of money Step 7 Calculate with money Step 8 Make a pound Step 9 Find change Step 10 Two-step problems</p>	<p>Steps:</p> <p>Step 1 Recognise equal groups Step 2 Make equal groups Step 3 Add equal groups Step 4 Introduce the multiplication symbol Step 5 Multiplication sentences Step 6 Use arrays Step 7 Make equal groups – grouping Step 8 Make equal groups – sharing Step 9 The 2 times-table Step 10 Divide by 2 Step 11 Doubling and halving Step 12 Odd and even numbers Step 13 The 10 times-table Step 14 Divide by 10 Step 15 The 5 times-table Step 16 Divide by 5 Step 17 The 5 and 10 times-tables</p>		<p>Steps:</p> <p>Step 1 Measure in centimetres Step 2 Measure in metres Step 3 Compare lengths and heights Step 4 Order lengths and heights Step 5 Four operations with lengths and heights</p>	<p>Steps:</p> <p>Step 1 Compare mass Step 2 Measure in grams Step 3 Measure in kilograms Step 4 Four operations with mass Step 5 Compare volume and capacity Step 6 Measure in millilitres Step 7 Measure in litres Step 8 Four operations with volume and capacity Step 9 Temperature</p>
Summer	Fractions	Time	Statistics	Geometry Position and Direction	Consolidation

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	<p>Step 1: Introduction to parts and whole</p> <p>Step 2 Equal and unequal parts</p> <p>Step 3 Recognise a half</p> <p>Step 4 Find a half</p> <p>Step 5 Recognise a quarter</p> <p>Step 6 Find a quarter</p> <p>Step 7 Recognise a third</p> <p>Step 8 Find a third</p> <p>Step 9 Find the whole</p> <p>Step 10 Unit fractions</p> <p>Step 11 Non-unit fractions</p> <p>Step 12 Recognise the equivalence of a half and two-quarters</p> <p>Step 13 Recognise three-quarters</p> <p>Step 14 Find three-quarters</p>	<p>Step 1 O'clock and half past</p> <p>Step 2 Quarter past and quarter to</p> <p>Step 3 Tell the time past the hour</p> <p>Step 4 Tell the time to the hour</p> <p>Step 5 Tell the time to 5 minutes</p> <p>Step 6 Minutes in an hour</p> <p>Step 7 Hours in a day</p>	<p>Step 1 Make tally charts</p> <p>Step 2 Tables</p> <p>Step 3 Block diagrams</p> <p>Step 4 Draw pictograms (1–1)</p> <p>Step 5 Interpret pictograms (1–1)</p> <p>Step 6 Draw pictograms (2, 5 and 10)</p> <p>Step 7 Interpret pictograms (2, 5 and 10)</p>	<p>Step 1 Language of position</p> <p>Step 2 Describe movement</p> <p>Step 3 Describe turns</p> <p>Step 4 Describe movement and turns</p> <p>Step 5 Shape patterns with turns</p>	
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