

Below outlines the learning focus for each term

Year 2 Programme of Study – by the end of the academic year:**Number – number and place value**

- 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

Number – addition and subtraction

- 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:
 - 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.

Number – multiplication and division

- 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.

Number – fractions

- recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{2}$ 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 $\frac{1}{2}$

Measurement

- 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

- 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 – properties of shapes

- 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.

Geometry – position and direction

- 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

- 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.

Term	Learning Focus	
	Knowledge	Skills
	Number : Place Value	
Autumn Term	<ul style="list-style-type: none"> • Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s • Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward • Counting objects to 100 • Representing numbers to 100 • Identify, represent and estimate numbers using different representations, including the number line • Recognise the place value of each digit in a 2-digit number (10s, 1s) • Compare and order numbers from 0 up to 100; use and = signs 	
	Number : Addition and Subtraction	
	<ul style="list-style-type: none"> • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward • Finding 10 more and 10 less • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a 2-digit number and 1s <ul style="list-style-type: none"> ➤ Adding and subtracting 1s ➤ Adding a 2-digit and 1-digit number ➤ Adding and subtracting 10s ➤ Subtracting a 1-digit number from a 2-digit number (1) ➤ Adding two 2-digit numbers ➤ Subtracting a 2-digit number from another 2-digit number • Solve problems with addition and subtraction: applying their increasing knowledge of mental and written methods • Add and subtract numbers using concrete objects, pictorial representations and mentally, including: adding three 1-digit numbers 	

- Adding three 1-digit numbers
- Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures

Multiplication and division

- Solve one-step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs
 - Multiplication as equal groups
 - Using arrays
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
 - Adding equal groups
 - Multiplication sentences
 - Solving word problems – multiplication
 - Sharing and grouping
 - Dividing by 2
 - Solving word problems – division

Geometry – Shape

- Compare and sort common 2D and 3D shapes and everyday objects
 - Recognising 2D and 3D shapes
 - Sorting 2D shapes
- Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line
 - Drawing 2D shapes
 - Counting sides on 2D shapes
 - Counting vertices on 2D shapes
 - Finding lines of symmetry
- Order and arrange combinations of mathematical objects in patterns and sequences
- Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces
 - Counting faces on 3D shapes
 - Counting edges on 3D shapes
 - Counting vertices on 3D shapes
- Compare and sort common 2D and 3D shapes and everyday objects
 - Sorting 3D shapes
 - Making patterns with 3D shapes

Statistics

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
 - Making a tally chart

	<ul style="list-style-type: none"> ➤ Creating pictograms ➤ Interpreting pictograms ➤ Block diagrams • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
Spring Term	<p>Multiplication and division</p> <ul style="list-style-type: none"> • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers <ul style="list-style-type: none"> ➤ 2 times-table ➤ 5 times-table ➤ 10 times-table • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers <ul style="list-style-type: none"> ➤ Odd and even numbers ➤ Dividing by 2 ➤ Dividing by 5 ➤ Dividing by 10 • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts <p>Measurement – length and height</p> <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> ➤ Measuring in centimetres ➤ Measuring in metres • Compare and order lengths, mass, volume/ capacity and record the results using >, < and = <ul style="list-style-type: none"> ➤ Comparing lengths ➤ Ordering lengths • Solving word problems – length <p>Statistics</p> <ul style="list-style-type: none"> • Interpret and construct simple pictograms, tally charts, block diagrams and simple tables <ul style="list-style-type: none"> ➤ Making a tally chart ➤ Creating pictograms ➤ Interpreting pictograms ➤ Block diagrams • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity <p>Number – fractions</p> <ul style="list-style-type: none"> • recognise, find and name a half as one of two equal parts of an object, shape or quantity <ul style="list-style-type: none"> ➤ Introducing whole and parts ➤ Making equal parts ➤ Recognising a half (1/2)

	<ul style="list-style-type: none"> ➤ Finding a half ➤ Recognising a quarter (1/4) ➤ Finding a quarter ➤ Understanding a whole • Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity • Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 • Pupils should count in fractions up to 10, starting from any number <ul style="list-style-type: none"> ➤ counting in halves ➤ counting in quarters <p>Measurement - money</p> <ul style="list-style-type: none"> • Recognise and know the value of different denominations of coins and notes • Recognise and use signs for pounds (£) and pence (p); combine amounts to make a particular value <ul style="list-style-type: none"> ➤ Counting money – coins ➤ Counting money – notes ➤ Counting money – notes and coins • Find different combinations of coins that equal the same amounts of money • Showing equal amounts of money • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change <ul style="list-style-type: none"> ➤ Comparing amounts of money ➤ Calculating the total amount ➤ Finding change ➤ Solving twostep word problems
<p>Summer Term</p>	<p>Number: Place Value</p> <ul style="list-style-type: none"> • Use place value and number facts to solve problems <ul style="list-style-type: none"> ➤ Using number facts ➤ Using number facts and equivalence ➤ Using a 100 square • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems <p>Number : Addition and Subtraction</p> <ul style="list-style-type: none"> • Use place value and number facts to solve problems – missing numbers • Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures • Mental addition and subtraction • Use place value and number facts to solve problem • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

Measurement – time

- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
- 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
- Compare and sequence intervals of time
- Finding and comparing durations of time
- Finding the start / end time

Measurement – Weight, volume and temperature

- Compare and order lengths, mass, volume/ capacity and record the results using $>$, $<$ and $=$
- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}$ C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels
 - Measuring mass in grams
 - Measuring mass in kilograms
 - Measuring volume in millilitres
 - Measuring volume in litres
 - Measuring temperature using a thermometer
 - Reading thermometers
- Compare and order lengths, mass, volume/ capacity and record the results using $>$, $<$ and $=$

Geometry

- 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)
 - Describing movement
 - Describing turns
 - Describing movement and turns
 - Making patterns with shapes

Intent

The intent of our mathematics curriculum is to provide children with a foundation for understanding number, reasoning, thinking logically and problem solving with resilience so that they are fully prepared for the future.

We are committed to ensuring that children are able to recognise the importance of Maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts. We want all children to enjoy Mathematics, develop their curiosity about the subject, and to experience success in the subject.

Implementation

The majority of pupils will move through the programmes of study at broadly the same pace.... Pupils who grasp concepts rapidly should be challenged through being

offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on

- Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.
- Pupils are taught through whole-class teaching, where the focus is on all pupils working together on the same lesson content at the same time.
- Differentiation is achieved by emphasising deep knowledge and/or through individual support and intervention.
- If a pupil fails to grasp a concept or procedure, this is identified within the lesson structure and timely intervention ensures the pupil is best placed to move forward.
- Key facts such as multiplication tables and addition facts within 10 are retained through retrieval practice to develop automaticity; this avoids cognitive overload in the working memory and enables pupils to focus on new concepts.

Impact

Children demonstrate quick recall of facts and procedures. This includes:

- The recollection of the times tables.
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.
- Children show confidence in Believing that they will achieve.
- Children show a high level of pride in the presentation and understanding of the work

Ongoing formative assessment enabling teachers to be responsive to our children's needs. Furthermore, our lesson design structure is shaped in a way that ensures misconceptions are identified during the lesson and immediately addressed at the point of learning.

Termly teacher assessment, alongside standardised tests, are used to help identify any gaps there may be in a pupils understanding