



Curriculum Intent

Subject: Maths

Subject coordinators: KK, PR & LD

Topic Area in Mathematics	End points for Early Years	End points for KS1	End points for KS2
Number and place value	<ul style="list-style-type: none">- Recognise numbers 1-20- Use ten frames- Order numbers from 1-20- Count objects to 10 and beyond- Estimate and check how many objects by looking and checking these- Use 'more' and 'fewer' to compare two sets of objects- Use 'less than' and 'more than'.- Explore patterns within numbers to 10 including evens and odds	<ul style="list-style-type: none">- Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward using songs and games- Recognise the place value of each digit in a two-digit number (10s, 1s)- Identify, represent and estimate numbers using different representations, including the number line, numicon and 100 square- 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- Use a place value grid to partition numbers	<ul style="list-style-type: none">- Read, write, order, say and compare number to at least 1000000- Count in multiples of 6,7,9,25 and 1000- Read Roman numerals to 100 (I to C M)- Understand the value of each digit- Count forward and backwards with positive and negative whole numbers, through 0- Round numbers to appropriate degree of accuracy- Confidently solve problems relating to the above- Pictorial abacus-type questions to support understanding recognise tenths/hundredths/thousandths within any number.



Addition and Subtraction

- Find the total number of items in two groups by counting all of them
 - Say a number which is one more than a given number
 - Find 1 more/ 1 less up to 10
 - Add and subtract two single digit numbers (counting forward/ back)
- 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 (dienes, place value cards) number line, hundred square
 - Understand commutativity (addition)
 - Recognise and use the inverse relationship between addition and subtraction
 - Use the part-whole model to solve problems and share reasoning
 - Begin to use the bar model to understand the relationship between addition and subtraction
- Be able to use the shorthand column method to add numbers
 - Use the shorthand method to subtract numbers
 - Use estimation and the inverse relationship between the operations to check answers
 - Be familiar with a range of pictorial representations including the part-whole model
 - Solve multistep problems in contexts
 - Share their reasoning when answering questions (e.g. explain why and how)
 - Use diagrams to support their reasoning skills.
 - Use BODMAS to support order of operations.



Multiplication and Division

- Solve problems involving doubling, halving and sharing - use manipulatives, such as counters, cubes, other objects to demonstrate their understanding.
- 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 2 numbers can be done in any order (commutative) and division of 1 number by another cannot
- Solve problems involving multiplication and division, using materials, arrays, grouping, sharing, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
- Be able to recall multiplication facts and associated division facts from 1 through to 12.
- Multiply and divide up to 4 digit numbers by a two- digit whole number and interpret remainders.
- Multiply a one-digit number by a 2-digit decimal number and use connections in their Maths to explain why their answer is correct.
- Use the 'bus stop' method to divide numbers
- Use the long division method to divide numbers.
- Use mental calculations to solve problems
- Confidently remember and use their times tables facts to solve problems
- Be familiar with a range of pictorial representations including the bar model and the part-whole model
- Recognise and use square numbers and cube numbers
- Solve problems using scaling
- Understand and use commutativity to solve problems
- Use the distributive law to multiply numbers
- Understand and identify multiples, factors, factor pairs, prime numbers, prime factors and composite numbers.



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
- Write simple fractions, for example $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
- Use the bar model to find a fraction of a number
- Draw their own bar model to find a fraction of a number
- Recognise and show families of common equivalent fractions (using a fraction wall)
- Count up and down in hundredths
- Recognise and write the decimal equivalents
- Round decimals with two decimal places to the nearest whole number
- Compare and order fractions
- Recognise mixed number and improper fractions
- Add and subtract fractions
- Multiply proper fractions and mixed numbers by whole numbers
- Multiply a fraction by another fraction.
- Understand the value of each digit in numbers up to 3 decimal places.
- Recognise and understand what the the % symbol represents
- Multiply 1 digit numbers with up to two decimal places by whole numbers
- Recall and use equivalences between simple fractions, decimals and percentages
- Divide proper fractions by whole numbers.



Measurement	<ul style="list-style-type: none">- Compare lengths and capacity using vocabulary e.g. longer/ shorter.	<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 ($^{\circ}$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- use coins and notes and pictorial representatives- 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	<ul style="list-style-type: none">- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places- Read, write and convert between standard units, converting measurements, (including miles to km/ Km to Miles)- using decimal notation to up to three decimal places- Recognise that shapes with the same areas can have different perimeters and vice versa using pictorial representatives- Recognise when it is possible to use formulae for area and volume of shapes (e.g. Know the formulae to calculate the area of both parallelogram and triangle.)- Calculate the area, calculate, estimate and compare volume using standard units- Convert between 12-hour and 24-hour clock.
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		<p><i>clock face to show these times</i></p> <ul style="list-style-type: none"> - <i>Know the number of minutes in an hour and the number of hours in a day</i> - <i>Use analog clocks; draw hands on the clocks</i> 	
<p>Geometry</p>	<ul style="list-style-type: none"> - <i>Recognise 2D shapes</i> 	<p><i>Properties of shapes</i></p> <ul style="list-style-type: none"> - <i>Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line</i> - <i>Use concrete objects and pictorial representatives</i> - <i>Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</i> - <i>Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</i> - <i>Compare and sort common 2-D and 3-D shapes and everyday objects</i> - <i>Use concrete objects and pictorial representatives; 3D shapes - nets</i> <p><i>Position and directions</i></p> <ul style="list-style-type: none"> - <i>Order and arrange combinations of mathematical objects in patterns and sequences</i> 	<p><i>Properties of shapes</i></p> <ul style="list-style-type: none"> - <i>Draw 2D shapes using given dimensions and angles recognise, describe and build simple 3D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles</i> - <i>Illustrate and name parts of circles, including radius, diameter and circumference</i> - <i>Recognise angles where they meet at a point and find missing angles.</i> - <i>Be able to use isometric paper to draw 3D shapes to some accuracy.</i> - <i>Enlarge shapes</i> - <i>Use mathematical language, such as corners, edges, faces, vertices and vertex with accuracy</i> - <i>Understand the difference between 3D shapes and prisms.</i> <p><i>Position and direction</i></p> <ul style="list-style-type: none"> - <i>Describe positions on the full coordinate grid</i>



		<ul style="list-style-type: none">- 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 concrete objects, purple mash activities- Use mathematical language, such as corners, edges, faces, with some degree of accuracy.	<ul style="list-style-type: none">- draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Statistics	<ul style="list-style-type: none">- N/A	<ul style="list-style-type: none">- Interpret and construct simple pictograms, tally charts, block diagrams and tables- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity- Use real life objects, pictorial and concrete objects- Ask-and-answer questions about totalling and comparing categorical data	<ul style="list-style-type: none">- Interpret and construct pie charts and line graphs and use these to solve problems- Calculate and interpret the mean as an average
Algebra			<ul style="list-style-type: none">-use simple formulae



			<ul style="list-style-type: none">- generate and describe linear number sequences- express missing number problems algebraically- find pairs of numbers that satisfy an equation with 2 unknowns- find possibilities of combinations of 2 variables
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