"Mathematics, rightly viewed, possesses not only truth but supreme beauty" - Bertrand Russell

## Curriculum Intent

The Curriculum at FHC is designed to ensure that children enjoy mathematics and have a secure and deep understanding of fundamental mathematical concepts and procedures when they leave us to go to secondary school. We want children to see the mathematics that surrounds them every day and enjoy developing vital life skills in this subject.
The national curriculum for mathematics aims to ensure that all pupils:

- To implement the current legal requirements of the Foundation Stage (FS) and the National Curriculum (NC).
- To foster positive attitudes, fascination and excitement of discovery through the teaching and learning of mathematical concepts.
- To ensure pupils become fluent in the fundamentals of mathematics, developing conceptual knowledge and an ability to recall and apply knowledge rapidly and accurately.
- To ensure that pupils can reason mathematically and solve problems
- For our children to develop a 'can do' attitude and perceive themselves as mathematicians.
- To broaden children's knowledge and understanding of how mathematics is used in the wider world.
- For our children to use and understand mathematical language and recognise its importance as a language for communication and thinking.


## Purpose of Study

Philosophical
At Fieldhead Carr, we promote the research of mathematician and educator, Jo Boaler who has created ' 8 Positive Norms' to support children in developing a growth mindset towards learning maths. Beliefs such as, "Everyone can do math to the highest level.". The idea that some people are born "Good at maths" and some are not, is just not true and yet many still believe this. The latest research tells us that because of the plasticity of the brain, children can reach any level in maths. Communicating this growth mindset message, "Everyone can learn maths," helps children understand that maths success is not about talent and ability but hard work, good strategies and help from others.
Linked to my Life
Maths is the universal language that is applied in almost every aspect of life. At Fieldhead Carr we have regular 'No Pen Maths Problem Solving Lessons' where children are given the opportunity to explore maths in the everyday. We also hold 'Maths Days' where children partake in problem solving and reasoning activities. Children also use maths throughout other subjects in the curriculum from History to Music.

Practical Skills


Teachers use the Concrete, Pictorial, Abstract approach (CPA) which is a highly effective approach to teaching that develops a deep and sustainable understanding of maths in pupils. Children often find maths difficult because it is abstract. The CPA approach helps children learn new ideas and build on their existing knowledge by introducing abstract concepts in a more familiar and tangible way. The end result is for children to be able to move to the abstract.
Children are given opportunities in each lesson to problem solve and reason. Each month, they also take part in a 'No Pens Maths Day' where they solve problems and reason practically.


At Fieldhead Carr Primary School, we recognise that our children need to be confident and fluent across each yearly objective in order for them to progress to deeper and more complex problems. To ensure our pupils acquire this deeper understanding, we follow the White Rose Maths Hub schemes of learning.
The White Rose Maths Hub schemes of learning break down each National Curriculum objective into fluency, reasoning and problem solving and we use the learning challenges to teach for mastery - which extends and deepens the understanding of pupils within each year group. Our teachers also use a range of other high quality resources such as the NCETM to further stretch and challenge all learners within the classroom. We use KIRFs (Key Instant Recall Facts' tailored to each year group's objectives to ensure our children are fluent in their recall facts.
Assessment and recording for long term knowledge retention:
Entry task: When beginning a new unit, for example, 'Place Value'. The Whiterose Maths small steps enable children to spend the first lessons recapping and consolidating learning from the previous year. This enables teachers to assess if the children have the pre-requisite knowledge to progress to new learning or if they need to spend time consolidating and embedding prior knowledge.
Exit task: Children complete a post unit assessment after each unit taught.
Recording for revisiting: Children use the document 'Flashback 4 ' to review prior learning $2 / 3$ times a week.

| Summary of Progression |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Place Value: Counting |  |  |  |  |  |  |
|  | - Count to and across 100, forwards and backwards, beginning with 0 or 1 , or from any given number. <br> - Count numbers to 100 in numerals; count in multiples of $2 \mathrm{~s}, 5 \mathrm{~s}$, and 10 s . <br> Autumn 1 <br> Spring 1 <br> Spring 3 <br> Summer 4 | - Count in steps of 2, 3 and 5 from 0 , and in tens from any number, forward and backward. <br> Autumn 1 | - Count from 0 in multiples of 4, 8, 50 and 100 . Find 10 or 100 more or less than a given number. <br> Autumn 1 <br> Autumn 3 | - Count in multiples of 6,7,9, 25 and 1000. <br> - Count backwards through 0 to include negative numbers. <br> Autumn 1 <br> Autumn 4 | - Count forwards or backwards in steps of powers of 10 for any given number up to 100 000. <br> - Count forwards and backwards with positive and negative whole numbers, including through 0. <br> Autumn 1 Summer 4 |  |

## Place Value: Represen

- Identify and represent numbers using objects and pictorial representations
- Read and write numbers to 100 in numerals
- Read and write numbers from 1 to 20 in numerals and words.

Autumn 1
Spring 1
Spring 3
Summer 4

- Read and write numbers to at least 100 in numerals and in words.
- Identify, represent and estimate numbers using different representations, including the number line.
- Identify, represent and estimate numbers using different representations.
- Read and write numbers up to 1000 in numerals and in words.


## Autumn 1

-Identify, represent and estimate numbers using different representations. - Read Roman numerals to 100(I to C) and know that over time, the numeral system chances to include the concept of 0 and place value.

- Read, write (order and compare) numbers to at least 1000000 and determine the value of each digit
- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
- Read, write, (order and compare) numbers up to 10000 000 and determine the value of each digit.

Autumn 1


|  |  | columnar addition and subtraction. <br> Autumn 2 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Addition and Subtraction: Solve Problems |  |  |  |  |  |
| - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= --9 <br> Autumn 2 <br> Spring 2 | Solve problems with addition and subtraction: <br> - Using concrete objects and pictorial representations, including those involving numbers, quantities and measures <br> - Applying their increasing knowledge of mental and written methods. <br> Autumn 2 | - Solve problems including missing number problems, using number facts, place values, and more complex addition and subtraction. <br> Autumn 2 | - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. <br> Autumn 2 | - Solve addition and subtraction multi-step problems in connects deciding which operation and methods to use and why. <br> - Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. <br> Autumn 2 | - Solve addition and subtraction multi-step problems in contexts, deciding which operation and methods to use and why. <br> Autumn 2 |
| Multiplication and Division: Recall / Use |  |  |  |  |  |
|  | Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables including: <br> - Recognising odd and even numbers. <br> - Show that multiplication can be done in any order (commutative) and division of one number by another cannot. <br> Spring 2 | - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. <br> Autumn 3 Spring 1 | - Recall multiplication and division facts for multiplication tables up to $12 \times 12$ <br> Use place value, known and derived facts to multiply and divide mentally, including: <br> - multiplying by 0 and 1 ; dividing by 1 ; multiplying together three numbers <br> - - recognise and use factor pairs and commutativity in mental calculations. <br> Autumn 4 Spring 1 | - Identify multiples and factors including finding all factor pairs of a number, and common factors of two numbers. <br> - Know and use the vocabulary of prime number, prime factors and composite (nonprime) numbers. <br> - Establish whether a number up to 100 is a prime and recall prime numbers up to 19 . <br> - Recognise and use square numbers and cube numbers and the notation for squared and cubed. | - Identify common factors, common multiples and prime numbers. <br> - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. <br> Autumn 2 |


|  |  |  |  | Autumn 3 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Multiplication and Division: Calculations |  |  |  |  |  |
|  | - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x) and division ( $\div$ ) and equals (=) signs, <br> Spring 2 | - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers, using mental and progressing to formal written methods. <br> Autumn 3 Spring 1 | - Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. <br> Spring 1 | - Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for two-digit numbers. <br> - Multiply and divide numbers mentally drawing upon known facts. <br> - Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. <br> - Multiply and divide whole numbers and those involving decimals by 10 , 100, 1000. <br> Autumn 3 Spring 1 | - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication <br> - Divide numbers up to 4 digits by a two-digit number using the formal written method of long division, and interpret remainders, fractions, or by rounding, as appropriate for the context. <br> - Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. <br> - Perform mental calculations, including with mixed operations and large numbers. <br> Autumn 2 |
| Multiplication and Division: Solve Problems |  |  |  |  |  |
| - Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and | - Solve problems involving multiplication and division, using materials, arrays, | - Solve problems including missing number problems, involving multiplication and division, including | - Solve problems involving multiplying and adding, including using distributive law to multiply two digit numbers by one digit, | - Solve problems involving multiplying and division including using their knowledge of factors and | - Solve problems involving addition, subtraction, multiplication and division. |


|  | arrays with the support of the teacher. <br> Summer 1 | repeated addition, mental methods, and multiplication and division facts, including problems in contexts. <br> Spring 2 | positive integer scaling problems and correspondence problems in which n objects and connected to m objects. <br> Spring 1 | integer scaling problems and harder correspondence problems such as $n$ objects are connected to mobjects. <br> Spring 1 | multiples, squares and cubes. <br> - Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. <br> Autumn 3 Spring 1 | Autumn 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Multiplication and Division: Combined Operations |  |  |  |  |  |  |
|  |  |  |  |  | - Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. <br> Spring 1 | - Use their knowledge of the order of operations to carry about calculation involving the four operations. <br> Autumn 2 |
| Fractions: Recognise and Write |  |  |  |  |  |  |
|  | - Recognise, find and name a half as one of two equal parts of an object, shape or quantity. <br> - Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. <br> Summer 2 | - Recognise, find name and write fractions $1 / 3,1 / 4,2 / 4$ and $3 / 4$ of a length, shape set of objects or a quantity. <br> Summer 1 | - Count up and down in tenths, recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 . <br> - Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators. <br> - Recognise and use fractions as numbers: | - Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. <br> Spring 4 Summer 1 | - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths <br> - Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $>1$ as a mixed number (for example, $1 / 5$ $+4 / 5=6 / 5=11 / 5)$. <br> Spring 4 |  |


|  |  |  | unit fractions and nonunit fractions with small denominators. <br> Spring 3 |  | Summer 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fractions: Compare |  |  |  |  |  |  |
|  |  | $\bullet$ Recognise the equivalence of $2 / 4$ and $1 / 2$. <br> Summer 1 | - Recognise and show using diagrams, equivalent fractions with small denominators. <br> - Compare and order unit fractions, and fractions with the same denominators. <br> Spring 3 | - Recognise and show using diagrams, families of common equivalent fractions. <br> Spring 3 | - Compare and order fractions whose denominators are all multiples of the same number. <br> Autumn 4 | - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. <br> - Compare and order fractions, including fractions $>1$. <br> Autumn 3 |
| Fractions: Calculations |  |  |  |  |  |  |
|  |  | - Write simple fractions for example, $1 / 2$ of $6=$ 3. <br> Summer 1 | - Add and subtract fractions with the same denominator within one whole (for example. 5/7 $+1 / 7=6 / 7$ ) <br> Summer 1 | - Add and subtract fractions with the same denominator. <br> Spring 3 | - Add and subtract fractions with the same denominator and denominations that are multiples of the same number. <br> - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. <br> Autumn 4 Spring 2 | - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. <br> - Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, $1 / 4 \times 2 / 4=$ 1/8. <br> Divide proper fractions by whole numbers (for example. $1 / 3 \div 2=1 / 6$ ). <br> Autumn 3 <br> Autumn 4 |
| Fractions: Solve Problems |  |  |  |  |  |  |
|  |  |  | - Solve problems that involve all of the above. <br> Spring 3 | - Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide |  |  |


|  |  |  | Summer 1 | quantities, including nonunit fractions where the answer is a whole number. <br> Spring 3 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Decimals: Recognise, Write, Compare |  |  |  |  |  |  |
|  |  |  |  | - Recognise and write decimal equivalents of any number of tenths or hundredths. <br> - Recognise and write decimal equivalents to $1 / 4,1 / 2,3 / 4$. <br> - Round decimals with one decimal place to the nearest whole number. <br> - Compare numbers with the same number of decimal places up to two decimal places. <br> Spring 4 <br> Summer 1 | - Read and write decimal numbers as fractions for example, $0.71=71 / 100$ <br> - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. <br> - Round decimals with two decimal places to the nearest whole number and to one decimal place. <br> - Read, write, order and compare numbers with up to three decimal places. <br> Spring 3 <br> Summer 3 | - Identify the value of each digit in numbers given to three decimal places. <br> Spring 3 |
| Fractions, Decimals and Percentages |  |  |  |  |  |  |
|  |  |  |  | - Solve simple measure and money problems involving fractions and decimals to two decimal places. <br> Spring 3 Spring 4 Summer 1 | - Recognise the percent symbol (\%) and understand that percent related to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. <br> - Solve problems which require knowing percentage and decimal equivalents of $1 / 2,1 / 4,1 / 5$, $2 / 5,4 / 5$ and those fractions with a | - Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375 for a simple fraction (for example 3/8). <br> - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. <br> Spring 3 |



|  | denominator of a multiple <br> of 10 or 25. | Spring 4 |
| :---: | :---: | :---: |
| Spring 3 |  |  |$\quad$



- Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
- Solve problems involving the calculation of percentages (for example, of measures, and such as $15 \%$ of 360 ) and the use of percentages for comparison.
- Solve problems involving similar shapes where the scale factor is known or can be found.
- Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.


## Algebra

| - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7={ }_{-}-9$ | - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. | - Solve problems, including missing number problems. |  |  | - Use simple formulae. <br> - Generate and describe sequences <br> - Express missing number problems algebraically. |
| :---: | :---: | :---: | :---: | :---: | :---: |


|  | - Note - although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3 |  |  |  |  | - Find pairs of numbers that satisfy an equation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Spring 2 |
| Measurement: Using Measures |  |  |  |  |  |  |
| Compare, describe and solve practical problems for: <br> - Lengths and heights <br> - Mass/weight Capacity and volume <br> - Time <br> Measure and begin to record the following: <br> - Lengths and heights <br> - Mass/weight <br> - Capacity and volume <br> - time <br> Spring 4 <br> Spring 5 <br> Summer 6 |  | - Choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ); mass ( $\mathrm{kg} / \mathrm{g}$ ), temperature ( C ), capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. <br> - Compare and order lengths, mass, volume/capacity and record the results using $>,<$ and $=$. <br> Spring 3 Spring 4 | - Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g), volume/capacity ( $1 / \mathrm{ml}$ ). <br> Spring 2 Spring 4 | - Convert between different units of measure (for example, kilometre to metre; hour to minute) <br> - Estimate, compare and calculate different measures. <br> Spring 2 Spring 4 | - Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). <br> - Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. <br> - Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling. <br> Spring 4 <br> Summer 5 <br> Summer 6 | - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. <br> - Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places. <br> - Convert between miles and kilometres. <br> Autumn 5 |
| Measurement: Money |  |  |  |  |  |  |
|  | - Recognise and know the value of different denominations of coins and notes. <br> Summer 5 | - Recognise and use symbols for pounds (f) and pence (p); combine different amounts to make a particular value. | - Add and subtract amounts of money to give change, using both f and p in practical contexts. | - Estimate, compare and calculate different measures, including money in pounds and pence. <br> Summer 2 | - Use all four operations to solve problems involving measure (for example, money). <br> Summer 3 |  |


|  |  | - Find different combinations of coins that equal the same amounts of money. <br> - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. <br> Spring 1 | Summer 2 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Measurement: Time |  |  |  |  |  |  |
|  | - Sequence events in chronological order using language (for example, before, and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) <br> - Recognise and use language relating to dates, including days of the week, weeks, months and years. <br> - Tell the times to the hour and half past the hour and draw the hands on a clock face to show these times. <br> Summer 6 | - Compare and sequence intervals of time. <br> - 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. <br> - Know the number of minutes in an hour and number of hours in a day. <br> Summer 2 | - Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12 -hour and 24hour clocks. <br> - Estimate and read time with increasing accuracy to the nearest minute, record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m/p.m, morning, afternoon, noon and midnight. <br> - Know the number of seconds in a minute and the number of days in each month, year and leap year. <br> - Compare durations of events (for example to calculate the time taken | - Read, write and convert between analogue and digital 12-and 24-hour clocks. <br> - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. <br> Summer 3 | - Solve problems involving converting between units of time. <br> Summer 5 | - Use, read write ad convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa. <br> Note - In the WRM schemes, time conversions are covered in Y5; the Y6 block concentrates on metric units. <br> Autumn 5 |


|  |  | by particular events or <br> tasks). |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Summer 3 |  |  |  |



| - Measure and calculate the | - Recognise that shapes |
| :--- | :--- |
| perimeter of composite | with the same areas can |
| rectilinear shapes in | have different |
| centimetres and metres. | perimeters and vice |
| - Calculate and compare | versa. |
| the area of rectangles | - Recognise when it is |
| (including squares), and | possible to use formulae |
| including using standard | for area and volume of | (including squares), and units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes.

- Estimate volume [for example, using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using waster].

Spring 4 Summer 6

- Recognise that shapes with the same areas can ferent perimeters and vice - Recognise when it is possible to use formulae for area and volume of shapes
- Calculate the area of parallelograms and triangles.
- Calculate, estimate and compare volume of cubes and cuboids using standard units including cubic centimetres (cm3) and cubic metres (m3), and extending to other units.


## Spring 5

- Recognise and name common 2D shapes (for example, rectangles (including squares), circles and triangles).
- Identify and describe
the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.
- Identify 2-D shapes on the surface of 3-D shapes, [for example,
a circle on a cylinder


## - Draw 2-D shapes

Summer 4

Autumn 3

- Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
- Identify lines of symmetry in 2-D shapes presented in different orientations.
- Distinguish between
regular and irregular polygons based on reasoning about equal sides and angles.
- Use the properties of rectangles to deduce related facts and find missing lengths and angles.
- Draw 2-D shapes using given dimensions and angles.
- Compare and classify geometric shapes based on their properties and sizes.
- Illustrate and name parts of circles including radius, diameter and

|  | and a triangle on a pyramid]. <br> - Compare and sort common 2-D shapes and everyday objects. <br> Autumn 3 |  |  | Summer 1 | circumference and know that the diameter is twice the radius. <br> Summer 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Geometry: 3D Shapes |  |  |  |  |  |
| - Recognise and name common 3D shapes (for example, cuboids (including cubes), pyramids and spheres). <br> Autumn 3 | - Recognise and name common 3-D shapes [for example, cuboids (including cubes). Pyramids and spheres]. <br> - Compare and sort common 3-D shapes and everyday objects. <br> Autumn 3 | - Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. <br> Summer 4 |  | - Identify 3-D shapes including cubes and other cuboids, from 2-D representations. <br> Summer 1 | - Recognise, describe and build simple 3-D shapes, including making nets. <br> Summer 1 |
| Geometry: Angles and Lines |  |  |  |  |  |
|  |  | - Recognise angles as a property of shapes or a description of a turn. <br> - Identify right angles, recognise that two right angles make up a halfturn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. <br> - Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. <br> Summer 4 | - Identify acute and obtuse angles and compare and order angles up to two right angles by size Identify lines of symmetry in 2-D shapes presented in different orientations. <br> - Complete a simple symmetric figure with respect to a specific line of symmetry. <br> Summer 4 | - Know angles are measures in degrees: estimate and compare acute, obtuse and reflex angles. <br> - Draw given angles, and measure them in degrees. Identify: <br> - Angles at a point and one whole turn (total 360) Angles at a point on a straight line and $1 / 2$ a turn (total 180). <br> - Other multiples of 90 . <br> Summer 2 | - Find unknown angles in any triangles, quadrilaterals, and regular polygons. <br> - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. <br> Summer 1 |


| Geometry: Position and Direction |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| - Describe position, direction and movement, including whole, half, quarter and three-quarter turns. <br> Summer 3 | - Order and arrange combinations of mathematical objects in patterns and sequences. <br> - Use mathematical vocabulary to describe position, direction and movement, including movements in a straight line an distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise). <br> Summer 4 |  | - Describe positions on a 2-D grid as coordinates in a first quadrant. <br> - Describe movements between positions as translations of a given unit to the left/right and up/down. <br> - Plot specified points and draw sides to complete a given polygon. <br> Summer 6 | - Identify, describe and represent the position of a shapes following a reflection or translation, using the appropriate language, and know that the shape has not changed. <br> Summer 2 | - Describe positions on the full coordinate grid (all four quadrants). <br> - Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. <br> Summer 2 |
| Statistics: Present and Interpret |  |  |  |  |  |
|  | - Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. <br> Summer 3 | - Interpret and present data using bar charts, pictograms and tables. <br> Summer 5 | - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> Summer 5 | - Complete, read and interpret information in tables, including timetables. <br> Spring 5 | - Interpret and construct pie charts and line graphs and use these to solve problems. <br> Spring 6 |
| Statistics: Solve Problems |  |  |  |  |  |
|  | - Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. <br> - Ask and answer questions about totalling and | - Solve one-step and twostep questions [for example, ‘How many more?' and 'How many fewer?'] using information presented in scared bar charts and pictograms and tables. | - Solve comparison sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <br> Summer 5 | - Solve comparison, sum and different problems using information presented in a line graph. <br> Spring 5 | - Calculate and interpret the mean as an average. <br> Spring 6 |

Maths Surriculum HCC

|  |  | comparing categorical <br> data. | Summer 5 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| FS1 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Number |  |  |  |  |  |
| - Recite numbers past 5 using songs and rhymes <br> - Subitise to 3 . | - Learn to count <br> meaningfully using 1-1 correspondence (numbers to 5). <br> - Recognise when quantities of similar things are equal. <br> - Begin to develop a deep understanding of numbers to 5 - number studies. | - To answer 'how many' questions using the last number counted. <br> - Recognise when quantities of dissimilar things are equal. | - To count out objects from a group (up to 5). <br> - Show 'finger numbers' up to 5. Continue to develop a deep understanding of numbers to $5 \& 6$ - number studies. | - To learn and use the language 'more than' 'less/fewer than' correctly. <br> - Learn to solve real world problems with numbers up to 5 (adding, sharing, subtracting). | - Learning to make marks to represent number. <br> - Learn to solve real world problems with numbers up to 5 (adding, sharing, subtracting). |
| Numerical Patterns |  |  |  |  |  |
| Measure <br> - Capacity - learn to identify full and empty. <br> - Identify objects relating to size - big, small etc. <br> Time <br> - Describe the sequence of events in nursery using a visual timetable. <br> Shape <br> - Select shapes appropriately during play - e.g. flat surfaces for building, a triangular prism for a roof etc. <br> - Talk about and recognise patterns in the environment. <br> - To sort objects into different groups. <br> - To identify patterns around them in the environment. | Measure <br> - Identify objects relating to length - long, short etc. <br> Shape <br> - Create pictures where shapes/objects represent a unique role. <br> - Follow ABAB patterns using movement and actions. <br> - To sort objects into different groups. | Measure <br> - Use language to compare objects relating to capacity. <br> - Identify objects relating to weight - heavy, light etc. <br> - Use language to compare objects relating to size. <br> Shape <br> - Explore and describe shapes using mathematical language - corners, sides, straight, curved. | Measure <br> - Link numerals and amounts. Time <br> - To describe a sequence of events from their daily routine. (T4W planting.) <br> Position <br> - To describe a familiar routes <br> - recall the route and the order of things seen on the way. | Measure <br> - To use language to compare objects relating to length. <br> Time <br> - To describe a sequence of events from a familiar story. <br> (T4W input) <br> Shapes <br> - Explore and describe shapes using mathematical language, faces, flat, curved, straight, solid, point. | Measure <br> - Use language to compare objects relating to weight. Shape <br> - Create ABAB patterns using 2D shapes. <br> Position <br> - To use correct positional language to describe route and locations - in, on, under, behind, in front, behind, in front, next to, on top, inside. |

FS2

| FS2 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Number |  |  |  |  |  |
| - Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). <br> -Recite numbers past 5 <br> - Say one number for each item in order: 1,2,3 <br> - Know that the last number reached when counting a small set of objects tells you how many there are in total up to 3 ('cardinal principle') <br> - Show 'finger numbers' up to 3 <br> - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 3 <br> - Experiment with their own symbols and marks as well as numerals. | - Recite numbers to 5 <br> - Say one number for each item in order: 1,2,3,4,5 <br> - Know that the last number reached when counting a small set of objects tells you how many there are in total up to 5 ('cardinal principle') <br> - Show 'finger numbers' up to 5 <br> - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 <br> - Experiment with their own symbols and marks as well as numerals. <br> - Solve real world mathematical problems with numbers up to 5 . <br> - Compare quantities using language: 'more than', 'fewer than'. <br> -Begin to recall number bonds for numbers 0-5 | - Recite number to 8 <br> - Say one number for each item in order: up to 8 <br> - Count objects, actions and sounds <br> - Subitise <br> - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 8 <br> - Explore the composition of 6,7,8 <br> -Compare two amounts up to 8 <br> - Understand the 'one more than/one less than' relationship between consecutive numbers to 8 . | - Recite numbers to 10 <br> - Say one number for each item in order: up to 10 <br> -Count objects, actions and sounds <br> - Subitise <br> - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 10 <br> - Explore the composition of 9\&10 <br> - Compare 9\&10 <br> - Understand the 'one more than/one less than' relationship between consecutive numbers to 10 | - Recite numbers beyond 10 <br> - To begin to recognise a teen number is 1 ten and ones. <br> -To recognise all number bonds to 10 . <br> - To add 2 groups together to make a total. <br> -To subitise using 9 and 10 . <br> -To recognise patterns in numbers beyond 20. <br> -To identify odd and even numbers. | - Automatically recall some number bonds to 10 . <br> - To become confident in doubling numbers to 10 . <br> - To become confident in halving numbers to 10 . <br> - To share amounts into equal groups <br> - To explore grouping in numbers (arrays). |
| Numerical Patterns |  |  |  |  |  |
| Shape <br> -To talk about and explore 2D shapes. <br> -Talk about and identifies the patterns around them <br> - Extend and create $A B$ patterns <br> - Notice an error in a repeating pattern. <br> Measure | Shape <br> -Talk about and explore 2D and 3D shapes. <br> - Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. <br> -Combine shapes to make new ones - an arch, a bigger triangle, etc. <br> - Correct an error in a repeating pattern. | Measure <br> - Make comparisons between objects relating to size, length, weight and capacity. -To compare the capacity of containers using the correct vocabulary (full, empty, nearly full, nearly empty, half full, half empty and overflowing). | Measure <br> - Make comparisons between objects relating to size, length, height <br> - To compare the length of objects using the correct vocabulary (long, longest, longer, short, shortest, shorter). <br> -To compare height using the correct vocabulary (tall, | Shape <br> - Select, rotate and manipulate shapes in order to develop spatial reasoning skills <br> -Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. <br> Position | Shape <br> - Select, rotate and manipulate shapes in order to develop spatial reasoning skills <br> -Continue, copy and create repeating patterns |


| -Make comparisons between objects relating to size, length. | Position <br> -To explore positional language <br> - Describe a familiar route. <br> - Discuss routes and locations, begin to use words like 'in front of' and 'behind' <br> Time <br> - Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' |  | tallest, taller, short, shortest, shorter). <br> - To compare the weight of objects using the vocabulary (heavy, heavier, heaviest, light, lighter, lightest). | -To confidently use positional language descriptively. |
| :---: | :---: | :---: | :---: | :---: |


| Coverage Overview |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year Group | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| FS 1 | - Number rhymes and songs <br> -Categorising and sorting <br> - Same/ different <br> - Pattern <br> - Subitising 1-3 <br> - Capacity | - Same/ different <br> - Numbers 1 \&2 <br> - Counting 1-1 <br> -Comparing length <br> - Pattern <br> - shape pictures | - Language of size <br> - Comparing quantities <br> - Numbers 3\& 4 <br> - Exploring \& comparing weight <br> - Subitising 1-4 | - Numbers 5\& 6 <br> -Counting objects 1-1 and showing amounts on fingers to 5 <br> -Subitising 1-5 <br> - Pattern ABAB with images/ colours <br> Time | -Comparing quantities <br> - Mathematical graphics <br> - shape | - Positional language <br> - Compare quantities <br> - Mathematical representation <br> - Pattern - with shapes |
| FS2 | - Match and sort <br> - Compare amounts <br> - Compare size, mass <br> and capacity <br> - Exploring pattern (AB) | - Representing 1,2,3 <br> - Comparing 1,2,3 <br> -Composition of 1,2,3 <br> - Circles and triangles <br> - Positional language <br> -Representing numbers to 5 <br> - One more or one less to 5 <br> - Shapes with four sides <br> -Time | - Introducing zero <br> -Comparing numbers to <br> 5 <br> -Composition of $4 \& 5$ <br> - Compare mass <br> - Compare capacity <br> - Numbers 6,7 \&8 <br> -Combining two amounts <br> - Making pairs <br> -Length and height <br> - Time | - Counting to 9\&10 <br> -Comparing numbers to <br> 10 <br> - Number bonds to 10 <br> -3-D shapes spatial awareness <br> - Patterns (AAB,ABB) | - Build numbers beyond 10 <br> - Counting patterns <br> beyond 10 <br> -Spatial reasoning <br> - Match, rotate and manipulate shapes <br> - Addition <br> - Subtraction <br> - Spatial reasoning compose and decompose | -Doubling <br> - Sharing and grouping <br> - Even and odd <br> -Spatial reasoning- visualise and build <br> - Patterns and relationships Spatial mapping |
| Year 1 | - Number: Place Value (within 10) | - Number: Addition and Subtraction (within 10) <br> - Geometry: Shape | - Number: Place Value (within 20) | - Number: Place Value (within 50) | - Number: Multiplication and Division <br> - Number: Fractions | - Number: Place Value (within 100) <br> - Measurement: Money |

Maths Curriculum HC

|  |  | - Consolidation | - Number: Addition and Subtraction (within 20) | - Measurement: Length and Height <br> - Measurement: Mass and Volume | - Geometry: Position and Direction | - Measurement: Time <br> - Consolidation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year 2 | - Number: Place Value <br> - Number: Addition and Subtraction | - Number: Addition and Subtraction <br> - Geometry: Shape | - Measurement: Money <br> - Number: <br> Multiplication and Division | - Measurement: Length and Height <br> - Measurement: Mass, Capacity and Temperature | - Number: Fractions <br> - Measurement: Time | - Statistics <br> - Geometry: Position and Direction Consolidation |
| Year 3 | - Number: Place Value <br> - Number: Addition and Subtraction | - Number: Addition and Subtraction <br> - Number: Multiplication and Division (A) | - Number: <br> Multiplication and Division (B) <br> - Measurement: Length and Perimeter | - Number: Fractions (A) <br> - Measurement: Mass and Capacity | - Number: Fractions (B) <br> - Measurement: Money | - Geometry: Shape <br> - Statistics <br> - Consolidation |
| Year 4 | - Number: Place Value Number: Addition and Subtraction | - Measurement: Area <br> - Number: Multiplication and Division (A) | - Number: <br> Multiplication and Division (B) <br> - Measurement: Length and Perimeter | - Number: Fractions <br> - Number: Decimals (A) | - Number: Multiplication and Division (B) <br> - Measurement: Money <br> - Measurement: Time | - Consolidation <br> - Geometry: Shape <br> - Statistics <br> - Geometry: Position and Direction |
| Year 5 | - Number: Place Value <br> - Number: Addition and Subtraction | - Number: Multiplication and Division (A) <br> - Number: Fractions (A) | - Number: <br> Multiplication and Division (B) <br> - Number: Fractions (B) | - Number: Decimals and Percentages. <br> - Measurement: <br> Perimeter and Area <br> - Statistics | - Geometry: Shape <br> - Geometry: Position and Direction <br> - Number: Decimals | - Number: Negative Numbers <br> - Measurement: Converting Units. <br> - Measurement: Volume |
| Year 6 | - Number: Place Value <br> Number: Addition, <br> Subtraction, <br> Multiplication and Division | - Number: Fractions (A) <br> - Number: Fractions (B) <br> - Measurement: <br> Converting Units | - Number: Ratio <br> - Number: Algebra <br> - Number: Decimals | - Number: Fractions, Decimals and Percentages <br> - Measurement: Area, Perimeter and Volume <br> - Statistics | - Geometry: Shape <br> - Geometry: Position and Direction | - Themed projects, consolidation and problem solving |

