Maths Progression of Knowledge and Skills

At Hetts Lane Infant and Nursery we follow the Early Years Foundation Stage Framework and National Curriculum to teach Mathematics.
We use White Rose Maths to deliver the objectives using a mastery approach.
Fluency and the depth of understanding of concepts is developed through the Concrete, Pictorial, Abstract approach.
Counting Collections are used to support counting and reasoning skills in the Foundation Stage.

	EYFS	Year 1	Year 2
Number Place Value	Development matters: Count objects, actions and sounds. Subitise. Link the number symbol (numeral) with its cardinal number value. Count beyond ten. Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. **ELG: Number –** **Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5.** **Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including**	To count to and across 100 forwards and backwards beginning with 0 or 1 or from any given number To count in multiples including 2's, 5's and 10's Given a number identify 1 more and 1 less. To identify and represent numbers using concrete objects and pictorial representations including the number line and comparing numbers using the language of equal to, more than, less than (fewer) most, least To read and write numbers to 100 in numerals. To read and write numbers from 1-20 in numerals and words. To use ordinal numbers when counting/ordering (non statutory).	To count in steps of 2,3 & 5 from 0 and in tens from any number forwards and backwards. To compare and order numbers from 0-100. To identify, represent and estimate numbers using different representations including the number line. To read and write numbers to at least 100 in numerals and words. To recognise the place value of each digit in a 2 digit number To use place value and number facts to solve problems.

	subtraction facts) and some number bonds to 10, including double facts.		
Number Addition and Subtraction	Development matters: Automatically recall number bonds for numbers 0– 10. **ELG: Numerical Patterns** **- Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally**	To read, write and interpret mathematical statements involving +/- signs. To solve one step problems that involve addition and subtraction using concrete objects and pictorial representations and missing number problems. To add & Subtract 1 digit & 2 digit numbers to 20 including 0. To represent and use number bonds and related subtraction facts within 20 using counters, parts and wholes, ten frames, objects and pictures.	To recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. To solve problems with addition and subtraction: -using concrete objects & pictorial representations including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods. To add & Subtract numbers using concrete objects (counters, dienes, bundles of tens and ones), pictorial representations (place value grid, number line, number square, column grid, part-whole and bar model) and mentally including: • 2 digit no and ones • 2 digit no and tens • two 2 digit numbers • adding three 1 digit numbers To show that addition of two numbers can be done in any order (commutative) & subtraction of one number from another cannot. To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems

Number Multiplication and Division	**ELG: Numerical Patterns –** Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, **double facts and how quantities can be distributed equally**	To learn about odd and even numbers, e.g. in the context of patterns in the number system (nonstatutory). To learn doubles and halves to 10 in a variety of different contexts (non-statutory). To solve one step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations (pictures of objects, ten frames and number lines) and arrays with the support of the teacher.	To recall and use multiplication and division facts for the 2,5,10 tables including recognising odd and even numbers. To calculate the mathematical statements for multiplication and division within the multiplication tables and write them using the signs To show that multiplication of two numbers can be done in any order (commutative) & division of one number by another cannot. To solve problems involving multiplication and division, using materials (as per calculation policy use objects, counters and number lines), arrays, repeated addition, mental methods, multiplication and division facts including problems in context and subtraction.
Number Fractions	**ELG: Numerical Patterns** **- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally**	To recognise, find, name a half as one of two equal parts of an object, shape or quantity. To recognise, find, name a quarter as one of four equal parts of an object, shape or quantity.	To recognise, find, name and write fractions 1/3, ¼, 2/4, and ¾ of a length, shape, set of objects or quantity. To write simple fractions eg ½ of 6 = 3 and the equivalence of 2/4 &1/2
Measurement	Development Matters: mathematics Compare length, weight and capacity.	To compare, describe, and solve practical problems for: • length and heights • mass and weight • capacity and volume • time To measure and begin to record the following: • length and heights • mass and weight • capacity and volume • time (hrs, mins, secs)	To choose and use appropriate standard units to estimate and measure: • length and heights in any direction • mass (kg/g) • temperature • capacity (l/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels. To read scales to the nearest labelled division. To compare and order lengths, mass, volume, capacity, and record the results using <> and =

		To recognise and know the value of different denominations of coins & notes. To sequence events in chronological order using language (before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening) To recognise and use language relating to dates including days of the week, weeks, months & years To tell the time to the hour and half past the hour & draw the hands on the clock face to show these times.	To recognise and use the symbols for pounds (£) and pence (p) combine amounts to make a particular value. To find different combinations of coins that equal the same amount of money. To solve simple problems in a practical context To compare and sequence intervals of time. To tell and write the time to five minutes including quarter past/to the hour and draw the hands on the clock face to show these times.
Geometry	Development matters: mathematics Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns.	To recognise and name common 2D and 3D shapes including: 2D: triangles, circles, rectangles [inc squares] 3D: cuboids [inc cubes] pyramids and spheres To describe position, directions and movement including half, quarter and three quarter turns.	To identify and describe the properties of 2D shapes including the number of sides and symmetry in a vertical line. To identify and describe the properties of 3D shapes including the number of edges, vertices and faces To identify 2D shapes on the 3D surface. To compare and sort common 2D and 3D shapes and everyday objects. To order and arrange combinations of mathematical objects in patterns and sequences. To use mathematical vocabulary to describe position, directions and movement including movement in straight line and distinguishing between rotation as a turn in terms of right angles for quarter, half and three quarter turns (clockwise and anti-clockwise)

How we will implement Mathematics at Hetts Lane

- Planned discrete teaching of maths on a daily basis using the Concrete, Pictorial, Abstract approach.
- White Rose Maths used as a tool to aid planning and resource lessons.
- Intervention sessions, where relevant and necessary, enable more pupils to work within the expected level.
- Number blocks is used in Reception and Year 1 as part of the daily routine.
- Counting Collections are used to develop counting and reasoning skills in the Foundation Stage.
- Maths is linked to our whole school enquiry where relevant.
- Children will use maths in their classrooms as part of their daily life at school to apply skills taught. Maths areas are evident in Nursery and FS2 learning environments.
- Evidence of maths can be seen in individual pupil maths books, working walls and displays
- Daily class routines throughout the school includes the teaching of days of the week and months of the year.
- Parents are kept informed of what learning has taken place in Maths on the weekly newsletters.
- Children encouraged to reason about their maths. Sentence stems and key vocabulary are shared, modelled, rehearsed and displayed.