

Maths

The teaching of all Maths skills are fully embedded within our wider Rise Curriculum and supports every child to achieve their unique potential.



Maths Intent Statement

Maths is a key life skill for our pupils and teaching and learning in maths underpinned by our school motto 'Love, Learn, Laugh'. We teach maths in a fun, hands-on and visual way. Every pupil is exposed to a breadth of highly engaging learning opportunities tailored to meet their needs and current developmental level so that they can excel and reach their unique potential.

Maths targets are designed to teach pupils important functional skills and academic skills that correspond to their EHCP outcomes, the National curriculum and are preparing our pupils for adulthood. Our maths teaching aims to support our pupils to become fluent in the fundamentals of mathematics, to reason mathematically and to solve problems by developing their understanding of concepts, their ability to recall and apply mathematical knowledge, as well as to make generalisations.

Maths is taught using a thematic approach. Themes build upon each other and incorporate opportunities for our pupils to practise recalling and applying previously acquired knowledge. Within these themes there is a progression of mathematical skills that pupils are taught. Teachers differentiate their teaching and target setting to meet each child's unique profile of strengths and needs. We use Numicon resources to support understanding of number concepts and incorporate therapy recommendations in our maths lessons. We also draw on children's interests to plan motivating lessons so that they will be intrinsically motivated to engage.

Maths is split into two strands: Number that encompasses counting, calculation and problem solving and Geometry and Measure that covers a wide range of areas and links closely to communication and skills for life.

In the beginning of their maths journey pupils are exposed to activities supporting their understanding of cardinality and ordinality (e.g. 1:1 correspondence, small quantities, number rhymes). Within the strand of Geometry and Measure pupils are exposed to learning opportunities on shapes and patterns, as well as a wide range of concepts (e.g. different types of measurement, position, direction) which are introduced in a developmental sequence through play and exploration.

Alongside these pupils are exposed to lessons on Financial Education so that they have opportunities not only to develop numerical confidence with money but also the skills needed to be successful in their finances. This compliments our school aims in Preparing for Adulthood. Cross-curricular opportunities to apply mathematical knowledge are provided through Life Skills, P.E., Music lessons, and Maths Day activities, as well as OT and SaLT sessions.

Maths Key Stage End Points

Key Stage 1 End Points

Key Stage 1	Resilient	Independent	Skilled	Expressive
Maths - Number	<p>All pupils will experience number rhymes and songs and show engagement and anticipation in those that are particularly enjoyed; demonstrating a preference. They will be exposed to numerals, number related vocabulary and contrasting quantities in a range of contexts. All pupils will demonstrate an awareness of object permanence and cause and effect, in a range of tasks. All pupils will be well paired with a key person who will support them to engage with new tasks such as those based on 1:1 correspondence. All pupils will sit in a small group and maintain attention in a highly motivating Number related activity for 3 minutes.</p> <p>Most pupils will demonstrate understanding of one to one correspondence in a range of activities e.g. setting places at snack time for classmates, placing one object in each hole in number plates. Most pupils will participate in known number rhymes and songs and demonstrate anticipation. Most pupils will begin to join in counting to 5, even if not always accurately, in a range of activities (e.g. number songs, jumps, steps, counting objects etc.). Most pupils will be able to match number plates 1-5. Most pupils will be able to demonstrate understanding of 1 versus lots.</p> <p>Some pupils will join in counting to 10 in a range of activities (e.g. number songs, counting fingers, jumps, steps, etc.). They will recognise numbers 1 to 10 in a range of contexts. Some pupils will be able to select number shapes 1-10 on request and match them to the relevant numeral. They will be able to sequence numbers 1-5 and match them to the relevant quantity. Some pupils will count out objects up to 5, in a range of settings.</p>			
Maths – Geometry and measure	<p>All pupils will experience songs, related to shapes, and be able to show engagement and anticipation in those that are particularly enjoyed; demonstrating preference for their preferred songs. All pupils will explore a variety of shapes, objects of different sizes/lengths, and containers with different capacities, in a range of contexts. All pupils will be well paired with a key person who will support them to engage with new tasks, such as, exploring placing different items on weighing scales and exploring objects of different temperatures. All pupils will develop their understanding of shape and space by completing a range of tasks with support e.g. stacking objects, filling and emptying containers, transferring items in and out of containers, taking pieces of a set apart. All pupils will explore different colours in a range of activities e.g. mixing different paints. All pupils will sit in a small group and maintain attention in a highly motivating activity, related to Geometry and Measure, for up to 3 minutes. All pupils will be able to complete some inset puzzles, and match highly motivating identical objects/pictures/photos.</p> <p>Most pupils will imitate gross motor actions, as modelled by a familiar adult or peer or on a screen. They will have developed their matching repertoire and be able to match identical familiar 2D shapes, 3D shapes, coins and notes.</p> <p>Most pupils will hand over coins to a shopkeeper during an adult-led shopping role play or in a real life shop (amount not necessarily accurate). They will be able to explore the concepts of weight and capacity in a practical way and manipulate 3D shapes e.g. complete a shape sorter. Most pupils will understand and participate in daily routines and anticipate some specific time-based events e.g. meal times and home time. They will solve problems practically e.g. finding a matching glove to make a pair.</p> <p>Some pupils will recognise and name 2D shapes (including circle, square, triangle, rectangle) and be able to find them in their environment. They will be able to sort a range of objects by colour and shape and copy a simple repeating pattern.</p> <p>Some pupils will be able to identify big and small objects and long and short objects. They will be able to sort by size with 3 different sizes present, with support. Some pupils will be able to follow a symbol timetable and begin to sequence activities with support. They will show an understanding of the days of the week. Some pupils will begin to demonstrate understanding of positional vocabulary e.g. in versus out, up versus down.</p>			

Key Stage 2 End Points

Key Stage 2	Resilient	Independent	Skilled	Expressive
Maths - Number	<p>All pupils will have developed their imitation repertoire and be able to demonstrate this in Number related activities e.g. placing pegs into holes in number plates, putting an apple in each bowl at snack time. They will also be able to hold up one finger or five fingers when copying an adult model. All pupils will be able to follow simple familiar instructions and will be able demonstrate this in Maths sessions e.g. splatting one cupcake in an attention autism based number activity. All pupils will be exposed to the concept of more e.g. at snack time.</p> <p>Most pupils will demonstrate an awareness of when there are too few items for 1:1 correspondence activities (e.g. by looking for/reaching/requesting more). Most pupils will be able to match identical pictures of up to 5 items. Most pupils will be able to recognise numbers in their surroundings, match numerals and number shapes (1-5). Most pupils will join in with counting to 5 in a range of contexts. Most pupils will be able to match numerals to the relevant number of objects for less than 5 items; they will also be able to count out objects and make sets of objects. Most pupils will recognise number plates up to 5 and be able to select the correct number plate on request and match them to the relevant numeral (1-5). Most pupils will be able to demonstrate understanding of 1,2 and lots in a range of settings.</p> <p>Some pupils will be able to join in counting up to 30 from any given number. Some pupils will be able to use numbers to 20, including counting, reading and writing (or selecting number) and can order numbers to 20 in ascending and descending order. Some pupils will be able to complete sequences including missing numbers.</p> <p>Some pupils will be able to use number shapes to represent numbers 11-20 and will be able to respond to the question 'how many 10s and 1s?' in any 2-digit numbers up to 20. Some pupils will be able to use "the most" when comparing groups of objects up to 20. They will be able to estimate quantity (up to 20) and check their estimation by counting.</p> <p>Some pupils will be able to complete single-digit addition and subtraction sums with number shapes or objects to support and be able to recall addition and subtraction facts for all numbers up to 5. Some pupils can respond to and use the vocabulary and symbols (+=) associated with addition and subtraction and I can write + and – in a number sentence. Some pupils will be able to compare pairs of numerals and say which one is bigger/smaller. Some pupils will be able to say the number that is 1 more or 1 less, from given numbers (1- 20). Some pupils will be able to indicate odd and even numbers to 10. Some pupils will be able to demonstrate understanding of 1st, 2nd and 3rd. Some pupils will be able to enter data into a tally chart, table, pictogram and simple bar chart. Some pupils will be able to demonstrate understanding of half of objects, shapes and quantities.</p>			
Maths – Geometry and measure	<p>All pupils will explore a variety of shapes, objects of different sizes/lengths, and containers with different capacities, in a range of contexts with increasing independence. They will have more confidence when approaching tasks relating to geometry and measure e.g. building towers with different sized/shaped bricks, choosing the correct container for an item, making pictures using 2D shapes. All pupils will participate in shopping activities and will choose items they wish to purchase and exchange a coin/note for an item.</p> <p>Most pupils will demonstrate understanding of some 2D shape names and complete shape-related activities; such as, matching triangles of all type/size/colour to the 'triangle' symbol. Most pupils will recognise different colours and be able to sort items by colour. Most pupils will demonstrate understanding of some positional vocabulary e.g. in, out, up, down. Most pupils are beginning to sort objects by size. They will also demonstrate understanding of vocabulary related to size and capacity. Most pupils will demonstrate understanding of some significant times of the school day.</p> <p>Some pupils will be able to sort and describe shapes in a variety of ways. Some pupils will move forwards and backwards upon request and demonstrate understanding of the language of movement. Some pupils will demonstrate understanding of how to use non-standard units of measure in a range of measuring tasks. They will develop their understanding of positional vocabulary and use a variety of terms to describe position. Some pupils will demonstrate understanding of whole turns, by moving themselves or objects. Some pupils will demonstrate understanding of 'first' 'next' and 'last' in a variety of situations. Some pupils will create a range of repeating patterns with three elements. Some pupils will develop their understanding of money and be able to recognise, name, sort and select coins or notes to pay for items.</p>			

Key Stage 3 End Points

Key Stage 3	Resilient	Independent	Skilled	Expressive
Maths -Number	<p>All pupils will engage in maths activities which have been personalised and designed to support them to develop their understanding of number at a level that is appropriate for them and is supporting them to develop their skills in preparation for adulthood, with support from a familiar adult as required. For instance, pupils may learn to match the number of the bus that they need to take to get from school to home and practice matching this out in the community.</p> <p>Most pupils will be able to count objects to 10, however they are arranged; they will be able to give objects to 10 on request. Most pupils will be able to recognise and name numerals to 10, and match them to the relevant number of objects. They will be able to make sets of up to 10 objects. Most pupils will be able to sequence numerals 1-10 and utilise a number line in their problem solving. They will be able to demonstrate understanding of more, less and fewer and none. Most pupils will be able follow instructions to 'add one' to a group of 1-9 objects and count the new total. They will be able to find all the different ways of making 5. Most pupils will be able to compare numerals and indicate which is bigger/smaller.</p> <p>Some pupils will be able to count up to 50 confidently in a range of situations. Some pupils will recognise, identify, name, order and utilise numbers to 20 in a range of settings, including counting out objects. Some pupils will be able to write/type numerals and some number words. Some pupils will know their number bonds to 10/20 and use this knowledge to solve a range of problems. Some pupils will be able to estimate quantities and check their estimation by counting. They will demonstrate understanding of odd and even numbers. Some pupils will be able to use ordinal numbers in real life contexts. They will demonstrate understanding of 'the most' and 'equal'. Some pupils will be able to complete single digit number sums including those bridging 10 and they will be able to solve word problems by writing down a sum and completing it. Some pupils will be able to identify how many 10s and 1s there are in any 2-digit number up to 20. Some pupils will collect data using a range of data collection methods, e.g. tally chart, pictograms, and be able to answer questions about the data they have collected. Some pupils will be able to understand 'half' and use this to solve problems, give half of sets of objects and label fractions of objects.</p>			
Maths – Geometry and measure	<p>All pupils will engage in functional maths tasks, with support from a familiar adult as required; these tasks will support them to become more independent and prepare them for adulthood e.g. sorting clothes by colour ready to be put in the washing machine, pairing socks that have come out of the clothes dryer. All pupils will visit shops in their local community and choose items they would like to purchase; with support from an adult they will exchange an appropriate coin/item to purchase the item.</p> <p>Most pupils will participate in a range of activities related to measuring in real life contexts, e.g. following a recipe. They will demonstrate understanding of a range of vocabulary relating to measure e.g. full, empty, heavy, light, long, short, big, and small. Most pupils will be able to recognise shapes in their environment and match everyday objects to the relevant shape symbol. They will be able to identify corners, sides, edges, and faces on real life objects and shapes. They will be able to sort real life objects according to a given criteria and recognise objects that are the 'odd one out'. Most pupils will be able to move themselves or objects following instructions (e.g. stop, go, move forwards/backwards/fast/slow) and they will be able to instruct others. Most pupils can match coins and notes and will be able to identify some coins/notes.</p> <p>Some pupils will sort shapes and real life objects according to a range of criteria and describe some of the properties of shapes using basic mathematical language. Some pupils will measure lengths, mass and volume by using rulers, weighing scales and measuring cylinders respectively. They will also be able to use standard and non-standard units of measure to solve problems. Some pupils will recall events from the past and use some time related vocabulary appropriately. They will tell the time for times that are on the hour and move the hands on a clock face to show o'clock times. Some pupils can solve practical problems involving shapes, and those relating to size, height, length, weight and capacity. Some pupils will be able to use a range of comparative language to describe objects and temperature. Some pupils will understand and use a wide range of vocabulary to describe position, direction and movement concepts, including knowing different ways of expressing the same thing. Some pupils will understand that coins have different values and they will be able to give over an appropriate coin/note in a shop and know to wait for change.</p>			

