

# Maths

---

## Contents

Maths .....	1
Calculation .....	2
Number and Place Value.....	6
Geometry-Shape and Position .....	9

# Calculation

Beyond the Learning Journey, pupils will follow National Curriculum Key stage 1 and 2

[Mathematics programmes of study: key stages 1 and 2 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

All pupils will:-	Most pupils will:-	Some pupils will:-	A few pupils will:-
<p><b>MCA1</b> Experience, encounter and handle objects, liquids and materials in differing quantities</p> <p><b>MCA1i</b> Experience, encounter and handle a variety of objects and show a response to those that are the same and different.</p> <p><b>MCA1ii</b> Point selectively at objects without repetition</p>	<p><b>MCM1</b> Explore and begin to demonstrate an understanding of “more” and “less” in a variety of contexts and activities e.g playing in the ball pool, cooking, sand play, construction kits, snack time etc</p> <p><b>MCM1i</b> Recognise same and different e.g photos, toys, numerals, shapes.</p> <p><b>MCM1ii</b> Make collections of differing amounts.</p> <p><b>MCM1iii</b> Count and rearrange collections in groups.</p> <p><b>MCM1iv</b> Explore concept “less” in variety of contexts and activities.</p> <p><b>MCM1v</b> Explore concept of “more” in variety of contexts and play.</p> <p><b>MCM1vi</b> Estimate which has more or less e.g during sensory story, water play, playing with building blocks</p>	<p><b>MCS1</b> Compare small quantities using comparative language e.g. more/less, greater/fewer, smaller/larger .</p> <p><b>MCS1i</b> From a given number given: number before, after, 1 more, 1 less using a number line.</p> <p><b>MCS1ii</b> Add or take away one object and say how many now.</p> <p><b>MCS1iii</b> Estimate quantities from own prior number knowledge.</p>	<p><b>MCF1</b> Compare quantities using more than/ greater than, less than/ fewer than</p>
<p><b>MCA2</b> Experience a variety of activities involving matching and</p>	<p><b>MCM2</b> Participate in a variety of activities pairing and matching items, noticing similarities and differences</p>	<p><b>MCS2</b> Begin to recognise small quantities without counting e.g. dice,</p>	<p><b>MCF2</b> Solve a range of number problems to 20 and beyond</p>

<p>grouping objects e.g. cars, sensory play, light room activities, messy play</p>	<p>e.g. pictures, photos, toys, numerals and shapes.</p> <p><b>MCM2i</b> Identify same and different objects.</p> <p>MCM2ii Identify same and different pictures and photos.</p>	<p>numicon, dominoes, fingers (subitising).</p> <p><b>MCS2i</b> Respond to questions using the vocabulary 'difference' e.g what is the difference between this row (3 cubes) and this row (5 cubes.)</p>	<p>beginning to recall addition facts, number pairs</p>
<p><b>MCA3</b> Experience activities and language relating to sharing, portioning and breaking into parts e.g. songs, snack time, sensory stories</p> <p><b>MCA3i</b> Experience patterns in a variety of contexts e.g nature, seasons, words (ready steady go).</p> <p><b>MCA3ii</b> Show anticipation for a sequence – what comes next e.g ready steady go</p>	<p><b>MCM3</b> Explore adding more to a group and taking away from a group, estimate which has more / less e.g during sensory stories, snack time, cooking, sand and water play, building with blocks, playing with cars etc</p> <p><b>MCM3i</b> Sequence by looking, pointing, touching or naming.</p> <p><b>MCM3ii</b> Follow a simple pattern using 2 objects e.g colour, shape.</p> <p><b>MCM3iii</b> Identify patterns in a variety of contexts e.g nature.</p> <p><b>MCM3 iv</b> Predict what comes next in a sequence.</p>	<p><b>MCS3</b> From a given number give: number before, number after, 1more, 1 less e.g. using number line, adding or taking away 1 object and counting how many there are now.</p> <p><b>MCS3i</b> Begin to recognise a small quantity without counting e.g dice, Numcion, dominoes – subitise.</p> <p><b>MCS3ii</b> Explore and represent patterns in numbers to 10.</p> <p><b>MCS3 iii</b> Know doubles to 5 +5</p> <p><b>MCS3iv</b> Know odd and even to 10</p> <p><b>MCS3v</b> Add and subtract to 10 with concrete resources.</p> <p><b>MCS3vi</b> Work out number bonds to 5 with resources e.g Numicon, fingers.</p> <p>MCS3vii Work out number bonds to 10 with concrete resources.</p> <p>MCS3viii Begin to respond to simple mathematical vocabulary e.g add, take away, add more</p>	<p><b>MCF3</b> Add and subtract one digit and two-digit numbers to 20 (9+9, 18-9)</p> <p>MCF3i Identify and use += symbols in number sentences and problems.</p> <p><b>MCF3ii</b> Know double to 10 +10</p> <p><b>MCF3iii</b> Solve real life problems that involve addition and subtraction using concrete pr pictorial methods.</p> <p><b>MCF3 iv</b> Know number bonds to 10</p> <p><b>MVF3v</b> Use strategies to bridge 10 and solve problems such as near doubles.</p>

<p><b>MCA4</b> Move objects with a specific purpose in a specific place e.g in a box, on a higher level</p>	<p><b>MCM4</b> Participate in activities comparing whole and parts experiencing and beginning to use simple language relating to sharing, portioning and breaking into parts e.g during snack time, playdough play, pretend pizza, sandcastles etc.</p> <p><b>MCM4i</b> Stack, nest, connect and build with objects.</p> <p><b>MCA4ii</b> Groups, stack, connect objects in groups that are the same amount.</p>	<p><b>MCS4ii</b> Know quantities can be distributed equally.</p>	<p><b>MCF4</b> Solve simple real life problems that involve addition and subtraction using concrete objects,</p> <p>pictorial representation, missing numbers.</p> <p><b>MCF4i</b> To know grouping large quantities into smaller known amounts makes easier counting.</p> <p><b>MCF4ii</b> To know that repeated addition is multiplication e.g <math>3 \times 4 = 4 + 4 + 4</math>.</p> <p><b>MCF4ii</b> Use known multiples to solve calculations.</p> <p><b>MCF4iii</b> Use known multiples to solve simple problems.</p> <p><b>MCF4iv</b> Identify and use symbols X and = in number sentences.</p>
<p><b>MCA5</b> Experience activities and language relating to sharing, portioning and breaking into parts e.g songs, snack time, sensory stories.</p>	<p><b>MCM5</b> Participate in activities comparing whole and parts and begin using simple language relating to sharing, portioning, breaking into parts .</p>	<p><b>MCS5</b> Begin to understand the concept of sharing e.g. giving a biscuit to each person, breaking wholes into parts e.g. cake, sandwich, apple etc...</p> <p><b>MCS5i</b> Know half of a number by using doubles knowledge.</p> <p><b>MCS5ii</b> Recognise half of a shape in an everyday context.</p>	<p><b>MCF5</b> Recognise quarter if a shape in everyday context.</p> <p><b>MCF5i</b> Use half and double knowledge to solve simple problems.</p> <p><b>MCF5ii</b> Identify and use symbols <math>\div</math> and = in number sentences.</p> <p><b>MCF5iii</b> Know that you can only divide a bigger number into smaller parts.</p>

	<p><b>MCF6</b> Use money in role play situations.</p>	<p><b>MCS6</b> Use 1p coins to make amounts up to 10p e.g. playing shops customer / shop keeper.</p> <p><b>MCS6i</b> Recognise money by naming coins and notes.</p> <p><b>MCS6ii</b> Know the value of coins up to 20 p</p>	<p><b>MCF6</b> Know the value of coins up to £1</p> <p><b>MCF6i</b> Use money in simple mathematical calculations including simple practical problems.</p> <p><b>MCF6ii</b> Choose coins/noted to make amounts up to £10 e.g when paying for items in a shop or working out change in a mini enterprise.</p>
			<p><b>MCF7</b> Begin to explore multiplication and division e.g. explore problems involving doubling and halving, multiplication as repeat addition i.e. <math>3 \times 4</math> is <math>4+4+4</math> and division as sharing.</p> <p><b>MCF7 i</b> Identify and use +, -, x, ÷, = symbols in number sentences and problems.</p>
			<p><b>MCF8</b> Begin to understand, use and read a wide range of mathematical vocabulary in a variety of activities e.g. count, sequence, predict, multiple, most, least, order, share, halve, double, fraction, quarter, equal .....</p>

# Number and Place Value

All Pupils:-	Most pupils:	Some Pupils:	A few Pupils-
<p><b>MNA1</b> Experience the language associated with counting and comparison e.g. encounter familiar number rhymes, songs, stories, games and snack activities.</p>	<p><b>MNM1</b> Engage with familiar number rhymes, songs, stories, games and shopping activities MNM1i beginning to anticipate / predict what comes next.</p> <p><b>MNM1ii</b> Says the number names to 5 in the correct order (e.g. in a song or by joining in with the teacher) (PKSS)</p> <p><b>MNM1ii</b> Distinguishes between 'one' and 'lots', when shown an example of a single object and a group of objects (PKSS)</p>	<p><b>MNS1</b> Count, by rote, to 10.</p> <p><b>MNS1i</b> Count, by rote, to 10 backwards.</p> <p><b>MNS1ii</b> Count, by rote, beyond 10</p> <p><b>MNS1iii</b> Use teen numbers when counting by rote.</p> <p><b>MNS2</b> Continue a number string from any number to 10 by rote e.g 3456...</p>	<p><b>MNF1i</b> Count, by rote, numbers to 100, e.g joining in counting, forwards and backwards</p> <p><b>MNF1ii</b> Count on, by rote, from any given number to 100</p> <p><b>MNF1i</b> Count, by rote, in different multiples including, twos, fives and tens, (up to x10 of the number)</p>
<p><b>MNA2</b> Respond to a range of objects by reaching for, looking at, pointing/eye pointing, tracking and touching.</p> <p><b>MNA2i</b> Respond consistently to a range of objects developing sensory responses</p> <p><b>MNA2ii</b> Explore object permanence</p> <p><b>MNA2iii</b> scan objects in a sequential way</p>	<p><b>MNM2</b> Participate in activities with a purpose e.g., clapping, moving objects in response to an activity/song, signing along</p> <p><b>MNM2i</b> To touch/point and pick up objects in a sequential way</p> <p><b>MNM2ii</b> match objects in a sequence verbally or using AAC</p> <p><b>MNM2iii</b> name objects in a sequence verbally or using AAC</p> <p><b>MNM2iv</b> Seek a hidden object through scanning or touching.</p>	<p><b>MNS2</b> Use counting in play activities</p> <p><b>MNS2iii</b> count objects in a sequence verbally or using AAC</p> <p><b>MNS2i</b> Count with 1:1 correspondence up to 5</p> <p><b>MNS2ii</b> Count with 1:1 correspondence up to 10</p>	<p><b>MNF2</b> Count with 1:1 correspondence teen numbers</p> <p><b>MNS2ii</b> Recognise and sequence numbers to 20</p> <p><b>MNF2</b> To engage in a variety of activities designed to explore the properties of numbers up to 20</p> <p><b>MNF2ii</b> follow a continuous number chain backwards and forwards to 20</p> <p><b>MNF2iii</b> follow a broken number chain stopping and starting</p> <p><b>MNS2iv</b> Use a number line to 10 (and beyond)</p>

	MNM2v Demonstrates an understanding of the concept of 1:1 correspondence, e.g. giving one cup to each pupil (PKSS)		
<p><b>MNA3</b> Show anticipation of the next sound, item, action in a familiar sequence or activity e.g changing / greetings song, familiar sensory story.</p> <p><b>MNA3i</b> Show anticipation for their own and others turns e.g., taking part in an adult lead turn taking games</p>	<p><b>MNM3</b> Engage in a variety of turn taking activities beginning to wait their turn and show anticipation / prediction of what comes next.</p> <p><b>MNM3i</b> Copies and continues simple patterns using real-life materials, e.g., apple, orange, apple, orange, etc. (PKSS)</p>	<p><b>MNS3</b> Count on from any given number up to 5</p> <p><b>MNS3i</b> Copies and continues more advanced patterns using real-life materials, e.g. apple, apple, orange, apple, apple, orange, etc. (PKSS)</p> <p><b>MNS3ii</b> recognise quantities without counting up to 5 (be able to Subitise)</p> <p><b>MNS3iii</b> Count on from any given number up to 10</p>	<p><b>MNF3</b> Reliably count higher numbers using different methods e.g moving objects, grouping, counting on</p> <p><b>MNF3i</b> estimate an amount of objects before counting</p> <p><b>MNF3iii</b> Identifies how many objects there are in a group of up to 10 objects, recognising smaller groups on sight and counting the objects in larger groups up to 10 (PKSS)</p>
<p><b>MNA4</b> Experience matching objects and objects being placed in groups e.g., playing with cars or soft toys, during snack time, exploring coloured objects.</p>	<p><b>MNM4</b> Match objects</p> <p><b>MNM4ii</b> Use pictures, signs and numbers as labels.</p> <p><b>MNM4iii</b> know a number name represents an amount</p> <p><b>MNM4iv</b> sort and count objects in a variety of ways (rearranging, lining up objects, moving etc)</p> <p><b>MNM4v</b> Begin to count small quantities more reliably up to 5 objects e.g moving up places in a game counting, Spoonfuls of flour as they are added etc.</p>	<p><b>MNS4</b> Use numbers as labels in play activities</p> <p><b>MNS4i</b> Use numerals in play activities</p> <p><b>MNS4ii</b> Recognise numerals by name</p> <p><b>MNS4iii</b> Match quantities to numerals</p> <p><b>MNS4iv</b> Recognise and sequence objects and numerals to 5</p> <p><b>MNS4v</b> Recognise and sequence numerals to 10</p> <p><b>MNS4vi</b> Use numbers and corresponding numerals to 10 in practical activities and games</p>	<p><b>MNF4</b> Confidently number to 10</p> <p><b>MNF4i</b> Demonstrates an understanding that the last number counted represents the total number of the count (PKSS)</p> <p><b>MNF4ii</b> Confidently use numbers to 20</p> <p><b>MNF4iii</b> Recognise and name 2-digit numbers</p>

		including computer activities, money, life skills activities etc	
		<p><b>MNS5</b> Know the value of a number out of sequence to 5</p> <p><b>MNS5i</b> Know the value of a number out of sequence to 10</p>	<p><b>MNF5</b> Participate in a variety of activities exploring place value e.g using Numicon / tens and ones, expanding numbers into their 10s and ones, 100 square activities</p> <p><b>MNF5i</b> Know the value of a digit within a numeral by the place it is in for all 1- and 2-digit numbers.</p> <p>MNF5ii Begin to know the place value of 2-digit numbers</p>
<p><b>MNA5</b> Look at pictures as part of choosing activities</p> <p><b>MNA5i</b> Know pictures represent objects</p>	<p><b>MNM5</b> Begin to recognise numerals as opposed to text or pictures and that these represent a number name.</p>	<p><b>MNS5</b> know that marks can represent numbers of objects that have been counted</p> <p><b>MNS5i</b> Record quantities e.g., writing numbers to 5, drawing objects, using pictures, symbols, showing fingers etc</p>	<p><b>MNF5</b> Read and write numbers from 1-20 in digits and in words</p> <p>MNF5i To read and write number to 100 in digits and words</p> <p><b>MNF5ii</b> Respond to written numbers (AAC)</p>
		<p><b>MNS6</b> respond to ordinal numbers e.g., first, second third, last</p>	<p><b>MNF6i</b> Use ordinal numbers</p>
	<p><b>MNM6</b> Handle and play with coins in a range of activities including shopping SSM?</p>	<p><b>MNS6</b> Begin to exchange coins or money in a role play game or shopping.</p>	<p><b>MMF7</b> To Recognise and know the value of 1p - £2 coins and begin to recognise £5 and £10 notes use money for a range of purposes and in different situations e.g waiting for change, saving for a toy.SSM?</p>

# Geometry-Shape and Position

All pupils will:-	Most pupils will:-	Some pupils will:-	A few pupils will:-
<p><b>MGA1</b> Begin to develop attention skills using vision and touch to experience a range of objects and shapes e.g., recycled boxes, balls, cylinders</p> <p>MGA1ii Locating objects through auditory input</p>	<p><b>MGM1</b> Engage in intentional exploration with different shapes and objects. E.g container play, peg board / inset puzzles, rolling, building with bricks, playing with playdough, lining up objects, etc</p>	<p><b>MGS1</b> Explore 2D &amp; 3D shapes in a variety of play and activities e.g., sorting, stacking, balancing and rolling shapes, playing games, making pattern / pictures from shape, building models.</p> <p>MGS1i Select suitable shapes for building i.e shapes with flat surfaces.</p>	<p><b>MGF1</b> Name and find 3D shapes e.g., Naming 3D shapes in everyday objects, making a collection of cylinders from around the school, explaining which shapes were used to create a model.</p>
<p><b>MGA2</b> Participate in container play e.g. placing objects in and out of a container in imitation, pouring sand and water out of a container.</p> <p><b>MGA2i</b> Touch objects in a sequential manner</p> <p><b>MGA2ii</b> Begin to line up blocks or toys</p>	<p><b>MGM2</b> Match and sort objects and pictures by shape, form or colour.</p> <p><b>MGM2i</b> Begin to stack cups or blocks.</p>	<p><b>MGS2</b> Begin to name and find 2D shapes e.g., respond to show me the circle, what is the name of this shape?</p> <p><b>MGS2i</b> Begin to name some 3D shapes.</p>	<p><b>MGF2</b> Investigate and identify the properties of simple 3D shapes e.g., find shapes that roll/slide, select</p> <p><b>MGF2i</b> Describe a shape by its attributes,</p> <p><b>MGF2ii</b> sort / match shapes by - those with square faces, those with curved faces, the number, sort between 2D (flat) and 3D solid shapes, of faces, vertices or edges they have.</p>
<p><b>MGA3</b> Demonstrate an interest in people and objects beginning to</p>	<p><b>MGM3 Intentional mark making of vertical and horizontal lines</b></p>	<p><b>MGS3</b> Begin to independently draw a simple shape.</p>	<p><b>MGF3</b> Use 2D and 3D shapes in a creative way e.g., design and copy</p>

<p>move and track things in a variety of ways e.g track objects through a horizontal / vertical plane, in circular movements, watch people with interest.</p>	<p><b>MGM3i</b> Begin to trace simple 2D shapes</p> <p><b>MGM3ii</b>Begin to copy and simple 2D shapes e.g in sand, shaving foam, on the computer, with a pencil etc.</p>		<p>simple patterns or pictures using shapes, draw specified shapes, explore pattern with pegboards, explore symmetry, tessellation and repeating patterns, draw shapes on the computer.</p>
		<p><b>MGS4</b> Identify shapes within objects and pictures e.g., recognizing shapes in photos, shape hunts around the school, recognizing faces on 3D shapes.</p>	<p><b>MGF4</b> Begin to use and respond to geometric language both in the classroom and in the wider environment e.g., describing something that they have seen, planning what they would like to make, discussing patterns in nature, describe the attributes of 2D and 3D shapes: flat, curved, round, straight, solid,</p>
<p><b>MGA5</b> Experience a variety of activities to encourage the development of object permanence e.g. watch when an object is hidden; experience the retrieval of the hidden object, beginning to look for an object that has been moved out of their field of vision or hidden in a container.</p>	<p><b>MGM5</b> Develop a clear understanding of object permanence (e.g. Find an object in its usual place, look for it when moved somewhere else/ dropped.)</p>	<p><b>MGA5</b> Begin to show an awareness of the location of familiar objects e.g., coats on pegs, books in the box, favourite toys.</p>	
<p><b>MGA6</b> Observe and begin to repeat an action that has had an effect e.g., shaking or squeezing an object,</p>	<p><b>MGM6</b> Explore the use of positional language in context.</p>	<p><b>MGS6</b> Explore the placement of an object beginning to use terms such as on, under, off, next to, in, out, in</p>	<p><b>MGF6</b> Demonstrate an understanding of prepositional language in relation to</p>

<p>stacking objects and knocking them down, pressing a switch, touching some chime bars, throwing, and dropping objects etc</p> <p>MGA5i Expose to positional language e.g., up, down in a hoist.</p>	<p><b>MGM6i</b> React or respond to positional language e.g., up, down in a hoist.</p>	<p>front of, behind, at the bottom, on top e.g.,</p> <p><b>MGS6i</b> following instructions to place toys with varying key word levels, playing with cars, following instructions to tidy away.</p>	<p>people and objects e.g. placing self or objects where requested, <b>MGF6i</b> giving others instructions with multiple key words, describe positions in a picture, copying a model.</p>
<p><b>MGA7</b> Showing an awareness of your own body in relation to your surroundings. E.g through massage stories and TACPAC, Sherbourne</p> <p><b>MGA7i</b> Intentional movement of your own body.</p>	<p><b>MGM7</b> Engage in a range of activities (such as dance / PE/ swimming) to explore movement e.g., following instruction to stop, go, up, fast and slow, moving cars / balls in different ways.</p>	<p><b>MGS7</b> Understand spatial words in play or stories using in, on, under, off, up, down, through e.g water play, trains and tunnels,</p>	<p><b>MGF7</b> Demonstrate an understanding of movement language in relation to people and objects e.g., move around the room as requested/ give directions to others, maze work, programming a robot/ coding, exploring the movement of vehicles or rides.</p> <p><b>MGF7i</b> Explore the movement of an object beginning to use terms such as forwards, backwards, quickly, slowly, up, down e.g computer coding work, remote control vehicles, grid work, cars, boats, PE activities.</p> <p>MGF6ii Respond to directional language e.g left, right</p> <p>MGF6iii Give and use directional language.</p>
<p><b>MGA8</b> Participate in adult lead repetitive / turn taking games where an adults stops to wait for a</p>	<p><b>MGM8</b> Take turns actively e.g., rolling ball to a partner passing objects backwards and forwards.</p>	<p><b>MGS8</b> Copy simple patterns using objects, beads, bricks, shapes etc</p>	<p><b>MGF8</b> Continue, copy and create repeating patterns</p>

response e.g. intensive interaction, action songs	<b>MGS8i</b> Recognise and copy simple patterns e.g., clapping, making sounds		
---	---	--	--