



Stoke Row Church of England Primary School

Curriculum Statement for Maths

Intent:

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. (National Curriculum 2013)

In line with our school values, we believe that success in maths for every child at Stoke Row is possible and with courage and perseverance they can show excellence. We want children to be confident and resilient when solving problems, as well as being fluent and articulate when communicating the knowledge and understanding of this critical subject. We encourage all children to shine their unique light in maths lessons through participation, working hard, encouraging others and instil a sense of pride in what they do and achieve to ensure their **Bright Futures**.

At Stoke Row CE School, our intent for mathematics is to teach a rich, balanced, and progressive curriculum using maths to reason, problem solve and develop fluent conceptual understanding in each area. Our curriculum allows children to better make sense of the world around them by making connections between mathematics and everyday life. Our policies, resources and schemes support our vision and clearly outline where maths can be incorporated across different curriculum areas. The structure of the mathematics curriculum across school shows clear progression in line with age related expectations. Key knowledge and skills are also revisited regularly allowing repetition to embed learning. A concrete, pictorial, abstract approach provides children with a clear structure in which they can develop their depth of understanding of mathematical concepts. We aim to ensure that mathematics is a high-profile subject, which children view positively and with a 'Can do' attitude.

What is Teaching for Mastery?

Mastering maths means pupils of all ages acquiring a deep, long-term, secure and adaptable understanding of the subject. The phrase ‘teaching for mastery’ describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths. Achieving mastery means acquiring a solid enough understanding of the maths that’s been taught to enable pupils to move on to more advanced material. (NCETM)

The 5 big ideas in Teaching for Mastery:

- **Coherence** - Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.
- **Representation and Structure** - Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation
- **Mathematical Thinking** - If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others
- **Fluency** - Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics
- **Variation** - Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

Implementation

Coherence	• The teaching of year group key skills follows White Rose small steps • Whole class focused teaching with clear and progressive modelling of concepts and procedures with sequences of varied examples • Teachers use formative assessment during each lesson to judge whether pupils have a deep understanding and are ready to move on • Where pupils are struggling, scaffolding and timely interventions are put in place
Representation and Structure	• Manipulatives (e.g. Numicon, Base 10, place value counters, tens frames, Cuisenaire) are used in classrooms across the school to draw out the mathematical structure being taught • A variety of visual representations (e.g. bar and part-whole models) are used alongside concrete resources to enable children to make connections with mathematical structures • Children are encouraged to ‘show’ their Maths understanding by drawing their own images/representations in their books
Mathematical Thinking	• Mixed ability learning partners are used to allow for lots of opportunities to talk and reason • Stem sentences are displayed on the board, modelled and repeated throughout the lesson • Reasoning and problem-solving questions are provided, and accessed by all pupils, for each small step of learning to ensure ideas and concepts are understood at a deep level • Children are encouraged to speak and respond in full sentences, and write in full, reasoned sentences in their books
Fluency	• Flashback 4 at the start of each lesson to develop and encourage ‘sticky learning’ • Quizzes are also used to consolidate prior learning and develop fluency
Variation	• Misconceptions are planned for with pupils’ attentions drawn to ‘what is...what is not’ concept • Pupils encounter problems with similar structures but carefully varied contexts

- Variation in lessons includes the way concepts are represented and how questions/exercises are sequenced

Impact:

The impact of our mathematics curriculum is that children understand the relevance and importance of what they are learning in relation to real world concepts. Children know that maths is a vital life skill that they will rely on in many areas of their daily life and can carry over these skills to develop their **Bright Futures**. Children have a positive view of maths due to learning in an environment where maths is promoted as being an exciting and enjoyable subject in which they can investigate and ask questions; they know that it is reasonable to make mistakes because this can strengthen their learning through the journey to finding an answer. Children are confident to 'have a go' and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem. Our children have a good understanding of their strengths and targets for development in maths and what they need to do to improve. Our maths books evidence works of a high standard of which children clearly take pride; the components of the teaching sequences demonstrate good coverage of fluency, reasoning and problem solving. Our feedback and interventions support children to strive to be the best mathematicians they can be, ensuring a high proportion of children are on track or above. Our school standards are high, we moderate our books both internally and externally and children are achieving well.

Formative assessment

- Instant marking/feedback is used so that teachers and TAs intervene swiftly to help pupils having difficulties keeping up, whilst deepening the learning of those getting on fine

Summative assessment

- Reception – baselines assessments determine children's starting points, and children are judged against the ELGs at the end of the year
- White Rose end-of-block assessments are used to monitor impact on individual's children's knowledge and skills after each unit is taught
- White Rose reasoning and arithmetic tests (years 5 and 6) are used three times a year to inform assessment points, analyse gaps and inform future planning. Year 6 use previous SATs papers throughout the year
- SATs during the Summer term measure children's educational achievement in year 6

Pupil Conferencing

Pupil conferencing takes place twice a year to monitor the impact of implementation - what children know and remember from their maths lessons. This also provides insight into children's attitude towards the subject, and their perspective of maths at Stoke Row Primary School.

Place	e	EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

	Counting	Count beyond 10 Sum1, Sum6	- Count to and across 100, forwards, beginning with 0 or 1, or from any given number - Count numerals; count in multiples of twos, fives and tens A1, Spr1, Spr3, Sum 4	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward A1	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number A1, A3	- Count in multiples of 6, 7, 9, 25 and 1000 - Count backwards through zero to include negative numbers A1, A4	- Count forwards in steps of powers of 10 for any given number up to 1 000 000 - Count forwards and backwards with positive and negative numbers, including through zero A1, Sum4	
	Represent	- subitise - link the number symbol (numeral) with its cardinal number value. A3, A5, Spr1, Spr3, Spr5, Sum6	- Identify and represent numbers using objects and pictorial representations - Read and write numbers to 100 in numerals - Read and write numbers from 10 to 20 in numerals and words A1, Spr1&3, Sum4	- 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 A1	- Identify, represent and estimate numbers using different representation - Read and write numbers up to 1000 in numbers and in words A1	- Identify, represent and estimate numbers using different representations - Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value A1	- Read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit - Read Roman numerals to 1000 (M) and recognise years written in Roman numerals A1	Read, write (order and compare) numbers up to 10 000 000 and determine the value of each digit A1
	Use and compare	- count objects, actions and sounds - compare numbers - Understand the ‘one more than/one less than’ relationship between consecutive numbers. - Explore the composition of numbers to 10. - Automatically recall number bonds for numbers 0-5 and some to 10. A1, A3, A5, Spr1, Spr3, Spr4, Spr5, Sum1, Sum 4, Sum6	Given a number, identify one more and one less A1, Spr1&3, Sum4	- Recognise the place value of each digit in a two-digit number (tens, ones) - compare and order numbers from 0 up to 100; use and = signs A1	- Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - compare and order numbers up to 1000 A1	- find 1000 more or less than a given number - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - order and compare numbers beyond 1000 A1	(read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit A1	(read, write), order and compare numbers up to 10 000 000 and determine the value of each digit A1
	Problems/Rounding			use place value and number facts to solve problems A1	solve number problems and practical problems involving these ideas A1	- round any number to the nearest 10, 100 or 1000 - solve number and practical problems that involve all of the above and with increasingly large positive numbers A1	- interpret negative numbers in context - round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 - solve number problems and practical problems that involve all of the above A1	- round any whole number to a required degree of accuracy - use negative numbers in context, and calculate intervals across zero - solve number and practical problems that involve all of the above A1

	EYFS Framework	National Curriculum					
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Addition & Subtraction							
		Calculations					
		add and subtract one-digit and twodigit numbers to 20, including zero A2, Spr2	- add and subtract numbers using concrete objects, pictorial representations, and mentally, including: ➤ a two-digit number and ones ➤ a two-digit number and tens ➤ two two-digit numbers ➤ adding three onedigit numbers A2	- add and subtract numbers mentally, including: ➤ a three-digit number and ones ➤ a three-digit number and tens ➤ a three-digit number and hundreds - add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction A2	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate A2	- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) - add and subtract numbers mentally with increasingly large numbers A2	- perform mental calculations, including with mixed operations and large numbers - use their knowledge of the order of operations to carry out calculations involving the four operations A2
		Problems					
		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ A2, Spr2	- solve problems with addition and subtraction: ➤ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ➤ applying their increasing knowledge of mental and written methods A2	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction A2	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why A2	- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign A2	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why A2

		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication & Division	Recall / Use			- recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <i>Spr2</i>	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables <i>A3, Spr1</i>	- recall multiplication and division facts for multiplication tables up to 12×12 - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers - recognise and use factor pairs and commutativity in mental calculations <i>A4, Spr1</i>	- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers - know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers - establish whether a number up to 100 is prime and recall prime numbers up to 19 - recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) <i>A3</i>	- identify common factors, common multiples and prime numbers - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <i>A2</i>
	Calculations			calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs <i>Spr2</i>	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods <i>A3, Spr1</i>	multiply two-digit and three-digit numbers by a one-digit number using formal written layout <i>Spr1</i>	- 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 - multiply and divide numbers mentally drawing upon known facts - 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 - multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 <i>A3, Spr1</i>	- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context - 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 - perform mental calculations, including with mixed operations and large numbers <i>A2</i>

	Problems		solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher <i>Sum1</i>	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts <i>Spr2</i>	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects <i>Spr1</i>	solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects <i>Spr1</i>	- solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes - solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates <i>A3, Spr1</i>	solve problems involving addition, subtraction, multiplication and division <i>A2</i>
	Combines						solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <i>Spr1</i>	use their knowledge of the order of operations to carry out calculations involving the four operations <i>A2</i>

Fractions	EYFS Framework		National Curriculum					
	Reception		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Recognise & Write		- recognise, find and name a half as one of two equal parts of an object, shape or quantity - recognise, find and name a quarter as one of four equal parts of an object, shape or quantity <i>Sum2</i>	- recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ - of a length, shape, set of objects or quantity <i>Sum1</i>	- 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 - recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators - recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators <i>Spr3</i>	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten <i>Spr4, Sum1</i>	- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] <i>A4</i>	
				Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ <i>Sum1</i>	- recognise and show, using diagrams, equivalent fractions with small denominators - compare and order unit fractions, and fractions with the same denominators <i>Spr3</i>	recognise and show, using diagrams, families of common equivalent fractions <i>Spr3</i>	compare and order fractions whose denominators are all multiples of the same number <i>A4</i>	- use common factors to simplify fractions; use common multiples to express fractions in the same denomination - compare and order fractions, including fractions > 1 <i>A3</i>
				write simple fractions for example, $\frac{1}{2}$ of 6 = 3 <i>Sum1</i>	add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] <i>Sum 1</i>	add and subtract fractions with the same denominator <i>Spr3</i>	- add and subtract fractions with the same denominator and denominators that are multiples of the same number - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <i>A4, Spr2</i>	- add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] - divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$] <i>A3, A4</i>
					solve problems that involve all of the above <i>Spr3, Sum1</i>	solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number <i>Spr3</i>		

		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Decimals	Recognise, Write, Compare					- recognise and write decimal equivalents of any number of tenths or hundredths - recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ - round decimals with one decimal place to the nearest whole number - compare numbers with the same number of decimal places up to two decimal places <i>Spr4, Sum1</i>	- read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - round decimals with two decimal places to the nearest whole number and to one decimal place - read, write, order and compare numbers with up to three decimal places <i>Spr3, Sum3</i>	identify the value of each digit in numbers given to three decimal places <i>Spr3</i>
Fractions, Decimals & Percentages						solve simple measure and money problems involving fractions and decimals to two decimal places <i>Spr3, Spr4, Sum1</i>	- recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal - solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 <i>Spr3</i>	- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <i>Spr3, Spr4</i>

		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio, Proportion & Algebra	Ratio & Proportion							• 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/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 <i>Spr1</i>
	Algebra	•	• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	• 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 • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables <i>Spr2</i>

Note – although formal algebraic notation is not introduced until Year 6, algebraic thinking starts much earlier as exemplified by the ‘missing number’ objectives from Y1/2/3

		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement	Using Measures	- compare length, weight and capacity <i>Spr2, Spr4, Sum6</i> - continue, copy, create repeating patterns <i>A2, Spr6, Sum5</i>	- compare, describe and solve practical problems for: - lengths and heights - mass/weight - capacity and volume - time - measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume - time (hours, minutes, seconds) <i>Spr4, Spr5, Sum6</i>	- choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels - compare and order lengths, mass, volume/capacity and record the results using >, < and = <i>Spr3, Spr4</i>	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) <i>Spr2, Spr4</i>	- convert between different units of measure [for example, kilometre to metre; hour to minute] - estimate, compare and calculate different measures <i>Spr2, Sum3</i>	- convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints - use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling <i>Spr4, Sum5, Sum6</i>	- solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. where appropriate - 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 3 d.p. - convert between miles and kilometres <i>A5</i>
	Money		recognise and know the value of different denominations of coins and notes <i>Sum5</i>	- recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value - find different combinations of coins that equal the same amounts of money - solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change <i>Spr1</i>	add and subtract amounts of money to give change, using both £ and p in practical contexts <i>Sum2</i>	estimate, compare and calculate different measures, including money in pounds and pence <i>Sum2</i>	use all four operations to solve problems involving measure [for example, money] <i>Sum3</i>	

Measurement (continued)	EYFS Framework		National Curriculum					
		Reception	Year 1	Year 2	Year3	Year 4	Year 5	Year 6
	Time		- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] - recognise and use language relating to dates, including days of the week, weeks, months and years - tell the time to the hour and half past the hour and draw the hands on a clock face to show these times Sum6	- compare and sequence intervals of time - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times - know the number of minutes in an hour and the number of hours in a day Sum2	- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks - 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 - know the number of seconds in a minute and the number of days in each month, year and leap year - compare durations of events [for example to calculate the time taken by particular events or tasks] Sum3	- read, write and convert time between analogue and digital 12- and 24-hour clocks - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days Sum3	solve problems involving converting between units of time Sum5	use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa A5 Note – In the WRM schemes, time conversions are covered in Y5; the Y6 block concentrates on metric units.
Area, Perimeter, Volume					measure the perimeter of simple 2-D shapes Spr2	- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - find the area of rectilinear shapes by counting squares A3, Spr2	- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes - estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water] Spr4, Sum6	- recognise that shapes with the same areas can have different perimeters and vice versa - 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 Spr5

		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry	2-D Shapes	Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. <i>A6, Spr6, Sum3</i>	recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] <i>A3</i>	- 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 and a triangle on a pyramid] - compare and sort common 2-D shapes and everyday objects <i>A3</i>	draw 2-D shapes <i>Sum4</i>	- 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 <i>Sum4</i>	- 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 <i>Sum1</i>	- 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 circumference and know that the diameter is twice the radius <i>Sum1</i>
	3-D Shapes		recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] <i>A3</i>	- recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] - compare and sort common 3-D shapes and everyday objects <i>A3</i>	make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them <i>Sum4</i>		identify 3-D shapes, including cubes and other cuboids, from 2-D representations <i>Sum1</i>	recognise, describe and build simple 3-D shapes, including making nets <i>Sum1</i>
	Angles & Lines				- recognise angles as a property of shape or a description of a turn - identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle - identify horizontal and vertical lines and pairs of perpendicular and parallel lines <i>Sum4</i>	- 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 - complete a simple symmetric figure with respect to a specific line of symmetry <i>Sum4</i>	- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - draw given angles, and measure them in degrees - identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90° <i>Sum1</i>	- find unknown angles in any triangles, quadrilaterals, and regular polygons - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles <i>Sum1</i>

Geometry (continued)		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Position & Direction	select, rotate and manipulate shapes in order to develop spatial reasoning skills. <i>Spr6, Sum3</i>	describe position, direction and movement, including whole, half, quarter and three-quarter turns <i>Sum3</i>	- order and arrange combinations of mathematical objects in patterns and sequences - use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) <i>Sum4</i>		- describe positions on a 2-D grid as coordinates in the first quadrant - describe movements between positions as translations of a given unit to the left/right and up/down - plot specified points and draw sides to complete a given polygon <i>Sum6</i>	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed <i>Sum2</i>	- describe positions on the full coordinate grid (all four quadrants) - draw and translate simple shapes on the coordinate plane, and reflect them in the axes <i>Sum2</i>

Statistics		EYFS Framework	National Curriculum					
		Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Present & Interpret			interpret and construct simple pictograms, tally charts, block diagrams and simple tables <i>Sum3</i>	interpret and present data using bar charts, pictograms and tables <i>Sum5</i>	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs <i>Sum5</i>	complete, read and interpret information in tables, including timetables <i>Spr5</i>	interpret and construct pie charts and line graphs and use these to solve problems <i>Spr6</i>
	Solve statistical Problems			- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity - ask and answer questions about totalling and comparing categorical data <i>Sum3</i>	solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables <i>Sum5</i>	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs <i>Sum5</i>	solve comparison, sum and difference problems using information presented in a line graph <i>Spr5</i>	calculate and interpret the mean as an average <i>Spr6</i>