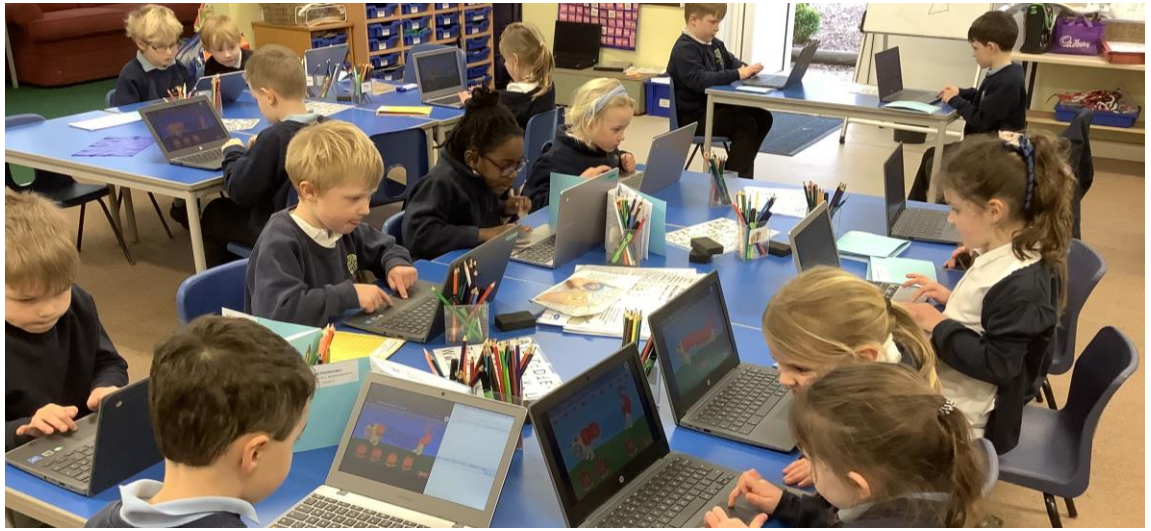
Mathematics

“Without mathematics, there’s nothing you can do.
Everything around you is mathematics.
Everything around you is numbers.”

Shakuntala Devi



Mathematics is a fundamental part of human thought and logic, and integral to attempts at understanding the world and ourselves. Mathematics provides an effective way of building mental discipline and encourages logical reasoning and mental rigor. In addition, mathematical knowledge plays a crucial role in understanding the contents of other school subjects such as science, music and art.

At St Kenelm’s, we aim for all pupils to have access to a Maths curriculum which meets the needs of all learners and equips them with the mathematical skills necessary for them to succeed on whichever path they follow. We want all pupils to develop a positive ‘can do’ attitude to maths and support all children to become mathematicians.

Our intention is for every child to leave our care as able and independent mathematicians, with the confidence and skills required to calculate fluently, reason confidently and solve problems efficiently. We strive to embed the skills and processes necessary to enable children to use and apply their Maths learning in a variety of contexts.
We aim to develop children’s enjoyment of maths and provide opportunities for children to build a conceptual understanding before applying their knowledge to everyday problems and challenges. Our approach to the teaching of mathematics develops children's ability to work both independently and collaboratively. Through mathematical talk, children will develop the ability to articulate and discuss their thinking.
By the end of Key Stage Two, children will leave our school prepared for the next step in their mathematical education.

We recognise that, in order for pupils to progress to deeper and more complex problems, children need to be secure, confident and fluent in their previous learning.

At St Kenelm’s, we strongly believe that decisions about when pupils progress should always be based on the security of their understanding and their readiness to progress to the next stage. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on. Pupils, who grasp concepts rapidly, should be challenged through being offered rich and sophisticated problems before any acceleration through new content.

To ensure consistent coverage across the school, we use a range of agreed materials and resources to provide age-appropriate tasks for our pupils: in turn, practising key skills and allowing children to become confident when working on key strategies, calculations or methods.

We have mapped our curriculum to ensure we cater for all our children, whether in single or mixed age classes. This is enhanced with a variety of resources including Abacus, White Rose Hub and Corbett Maths (in KS2 to support retrieval practice). We focus on a progression from concrete resources, to pictorial representations and finally into the numerical abstract to aid our children’s conceptual understanding.

Progress in mathematics learning each year should be assessed according to the extent to which pupils are gaining a deep understanding of the content taught for that year, resulting in sustainable knowledge and skills. Key measures of this are the abilities to reason mathematically and to solve increasingly complex problems, doing so with fluency, as described in the aims of the National Curriculum:

The National Curriculum for Mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Maths Overview

ST KENELM'S CE PRIMARY SCHOOL

Year 1 Maths Overview

Autumn	Number: Place Value (within 10)	Number: Addition and Subtraction (within 10)			Geometry: Shape	Number: Place Value (within 20)	Consolidation
Spring	Number: Addition and Subtractions (within 20)	Number: Place Value (within 50) (Multiples of 2, 5, 10 to be included)		Measurement: Length and Height		Measurement: Weight and Volume	Consolidation
Summer	Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10 to be included)	Number: Fractions	Geometry: Position and Direction	Number: Place Value (within 100)	Measurement: Money	Measurement: Time	Consolidation

ST KENELM'S CE PRIMARY SCHOOL

Year 2 Maths Overview

Autumn	Number: Place Value	Number: Addition and Subtraction		Geometry: Properties of Shape		Consolidation
Spring	Number: Multiplication and Division	Statistics	Geometry: Position and Direction	Measurement: Time	Measurement: Length and Height	Consolidation
Summer	Number: Multiplication and Division	Problem solving and efficient methods	Number: Fractions	Measurement: Mass, Capacity and Temperature	Consolidation	

St Kenelm's Primary School Maths Overview

Year 3

Autumn	Number: Place value	Number: Addition and Subtraction	Statistics	Number: Multiplication and Division	Geometry: Shape
Spring	Number Addition and Subtraction	Number: Fractions	Measurement: Money & Time	Number: Multiplication and Division	Geometry: Shape
Summer	Number Addition and Subtraction	Number: Fractions	Measurement: Length, Mass etc (Mass)	Position and direction	Measurement: Length, Mass etc (length)

St Kenelm's Primary School Maths Overview

Year 4

Autumn	Number: Place value	Number: Addition and Subtraction	Statistics	Number: Multiplication and Division		Geometry: Shape
Spring	Number Addition and Subtraction	Number: Fractions & Decimals	Geometry: Shape	Number: Multiplication and Division	Measurement: Area, Perimeter & Volume	
Summer	Number Addition and Subtraction	Number: Fractions & Decimals	Measurement: Money & Time	Number: Multiplication and Division	Measurement: Length, Mass etc.	Position and direction

St Kenelm's Primary School Maths Overview

Year 5

Autumn	Number: Place value	Number: Addition and Subtraction	Geometry: Position and direction	Number: Multiplication and Division		Geometry: Shape (Angles)
Spring	Number: Addition and Subtraction	Number: Fractions, Decimals & Percentages	Geometry: Shape (2D & 3D)	Number: Multiplication and Division	Number: Fractions, Decimals & Percentages	Measurement: Area, Perimeter & Volume
Summer	Number: Fractions & Decimals & Percentages	Measurement: Money & Time	Statistics	Measurement: Length & Mass etc.		Consolidation

St Kenelm's Primary School Maths Overview

Year 6

Autumn	Number: Place value	Number: Four Operations		Number: Fractions, Decimals & Percentages	Geometry: Position and direction	Geometry: Shape (Angles)
Spring	Number: Ratio & Algebra	Number: Fractions, Decimals & Percentages	Geometry: Shape	Consolidation	Measurement: Area, Perimeter & Volume	
Summer	Measurement: Length & Mass etc	Measurement: Money & Time	Statistics	Consolidation		

Maths Progression

Areas of learning Mathematics	EYFS 3-4 Year olds	 Reception
Communication and Language	Learn new vocabulary.	Understand how to listen carefully and why listening is important. Ask questions to find out more and to check they understand what has been said to them. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.
Personal, Social and Emotional Development	Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen, or one which is suggested to them.	
Physical Development	Choose the right resources to carry out their own plan. For example, choosing a spade to enlarge a small hole they dug with a trowel.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.
Literacy	Understand the five key concepts about print: • print has meaning • print can have different purposes • we read English text from left to right and from top to bottom • the names of the different parts of a book • page sequencing	
Mathematics	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. Solve real world mathematical problems with numbers up to 5. Compare quantities using language: 'more than', 'fewer than'. Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. Understand position through words alone – for example, "The bag is under the table," – with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc. Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	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. Automatically recall number bonds for numbers 0–5 and some to 10. Select, rotate and manipulate shapes 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. Compare length, weight and capacity.
Understanding the World		
Expressive Arts and Design		

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number: Place Value	**Autumn** • count to 20, forwards and backwards, beginning with 0 or 1,or from any given number • count, read and write numbers to 20 in numerals and words • given a number, identify one more and one less • identify and representnumbers using objects and pictorial representations including the number line, • use the language of: equal to, more than,less than (fewer), most, least **Spring** • count to 50, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 50 in numerals • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, • use the language of: equal to, more than,less than (fewer), most, least • count in multiples of twos, fives and tens	• count in steps of 2, 3,and 5 from 0, and in tens from any number, forward and backward • recognise the place value of each digit ina two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the numberline • compare and order numbers from 0 up to 100 • use <, > and = signs • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems	• count from 0 in multiples of 4, 8, 50 and 100; • find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas	• count in multiples of6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations • 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 • 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	• read, write, order and compare numbers to at least 1 000 000 • determine the value of each digit of numbers up to 1 000 000 • count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • interpret negative numbers in context, • count forwards and backwards with positive and negative whole numbers, including through zero • 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 theabove • read Roman numerals to 1000 (D& M) and recognise years written in Roman numerals	• read, write, order and compare numbers upto 10 000 000 • determine the value of each digit up to 10 000 000 • 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
	Summer • count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to100 in numerals • given a number, identify one more and one less					

	• identify and represent numbers using objects and pictorial representations including the number line, • use the language of: equal to, more than, less than (fewer), most, least					
Number: **Addition & Subtraction**	<u>Autumn</u> • represent and use number bonds and related subtraction facts within 10 • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • add and subtract one-digit numbers to 10, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems <u>Spring</u> • represent and use number bonds and related subtraction facts within 20 • read, write and interpret mathematical statements involving addition (+) subtraction (–) and equals (=) signs • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ___ – 9	• 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 • recall and use addition and subtraction facts to 20 fluently • derive and use related facts up to 100 • 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 one-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	• 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 partition addition • estimate the answer to a calculation and use inverse operations to check answers • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• 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 • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction • multi-step problems in contexts, deciding which operations and methods to use and why	• use their knowledge of the order of operations to carry out calculations involving the four operations • solve addition and subtraction • multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Number:
 	
Multiplication & Division
	• 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.	• recall and use multiplication and division facts for the2, 5 and 10 multiplication tables,
		• recognising odd and even numbers
		• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×),division (÷) and equals (=) signs
		• show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
		• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.
			• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
			• 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
			• 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.
				• 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 and1;
				➢ dividing by 1;
				➢ multiplying together three numbers
				  • recognise and use factor pairs and commutativity in mental calculations
				  • multiply two-digit and three-digit numbers by a one-digit number using formal written layout
				• solve problems involving multiplying and adding, including:
				➢ using the distributive law to multiply two digit numbers by one digit,
				➢ integer scaling problems,
				➢ harder correspondence problems such as n objects are connected to m objects
					• 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
					• recall prime numbers up to 19
					• 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
					• recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
					• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
					• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
					• solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
						• identify common factors,
						• Identify common multiples and prime numbers
						• 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 upto 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
						  • solve problems involving multiplication and division
						  • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Number: Fractions	• 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.	• recognise, find, name and write fractions ⅓, ¼, 2/4, ¾ of a length, shape, set of objects or quantity • write simple fractions for example, ½ of 6 =3 and recognise the equivalence of 2/4 and 1/2 .	• 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 • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7 • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above	• recognise and show,using diagrams, families of common equivalent fractions • count up and down in hundredths; • recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where theanswer is a whole number • add and subtract fractions with the same denominator • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to ¼, ½, ¾	• compare and order fractions whose denominators are all multiples of the same number • 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 • write mathematical statements > 1 as a mixed number [for example, ⅖ +⅘ = 6/5 = 1 ⅕ • 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	• use common factors to simplify fractions • use common multiples to express fractions in the samedenomination • compare and order fractions, including fractions > 1 • 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 • divide proper fractions by whole numbers [for example, ⅓ ÷ 2 = ⅙]

Number: Decimals & Percentages	-	-	-	• find the effect of dividing a one- or two-digit number by 10 and 100 • identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimalplaces up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places	• read and write decimal numbers as fractions [for example, 0.71 = 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 • round to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to three decimal places • recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', • write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentageand decimal equivalents of ½, ¼ ⅕ ⅖ ⅘ and those fractions with a denominator of a multiple of 10 or 25 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	• associate a fraction with division and calculate decimal fraction equivalents • identify the value of each digit in numbers given to three decimal places • multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written divisionmethods in cases where the answer has up to two decimal places • solve problems which require answers to berounded to specified degrees of accuracy • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Number: **Ratio& Algebra**	-	-	-	-	-	• 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 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 • 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 twovariables.

Geometry: Shape	• recognise and name common 2-D and 3-D shapes, including: ➢ 2-D shapes [for example, rectangles (including squares), circles and triangles] ➢ 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	• identify and describe the properties of 2-Dshapes, including the number of sides and line of symmetry in a vertical line • identify and describe the properties of 3-Dshapes, including the number of edges, vertices and faces • 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 and 3-Dshapes and everyday objects.	• draw 2-D shapes and make 3-D shapes using modelling materials; • recognise 3-D shapes in different orientations and describe them • 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 quartersof a turn and four a complete turn; • identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines • identify pairs of perpendicular and parallel lines	• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles • 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 simplesymmetric figure with respect to a specific line of symmetry	• identify 3-D shapes,including cubes and other cuboids, from 2-D representations • know angles aremeasured in degrees: • estimate and compare acute, obtuse and reflexangles • draw given angles, and measure them in degrees (o) • identify: ➢ angles at a point and one whole turn (total 360o) ➢ angles at a point on a straight line and ½ a turn (total 180) ➢ other multiples of 90 • use the properties ofrectangles to deduce related facts and find missing lengths and angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles	• draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-Dshapes, including making nets • compare and classifygeometric shapes based on their properties and sizes • find unknown angles in any triangles, quadrilaterals, and regular polygons • illustrate and name parts of circles, including radius, diameter and circumference • know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
Geometry: Position & Direction	• describe position, direction and movement, including whole, half, quarter and three-quarter turns.	• 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 • distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)	Recap Year 1 & Year 2	• describe positionson a 2-D grid as co-ordinates 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	• 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. • Continue to use first quadrant	• describe positions on the full co-ordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane • reflect them in the axes
Measurement: Money & Time	• compare, describe and solve practical problems for: - time [for example, quicker, slower, earlier, later} • measure and begin to record the following: - time (hours, minutes, seconds)	• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	• add and subtract amounts of money to give change, using both £ and p in practical contexts	• solve simple problems involving fractions and decimals to two decimal places	• solve problems involving converting between units of time • use all four operations to solve problems involving money using decimal notation, including scaling	• 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, using decimal notation to up to three decimal places

	• recognise and know the value of different denominations of coins and notes • 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 clockface to show these times	• 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 • 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.	• 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]	• estimate, compare and calculate different measures, including money in pounds and pence • 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.		
Measurement: **Lengths, Mass etc**	• compare, describe and solve practical problems for: ➢ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] ➢ mass/weight [for example, heavy/light, heavier than, lighter than] ➢ capacity and volume ➢ [for example, full/empty, more than, less than, half, half full, quarter]	• 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 =	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • measure the perimeter of simple2-D shapes	• Convert between different units of measure [for example, kilometre to metre; hour to minute]	• convert between different units of metric measure for example: ➢ kilometre and metre; ➢ centimetre and metre; ➢ centimetre and millimetre; ➢ gram and kilogram; ➢ litre and millilitre • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity[for example, using water] • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • use, read, write and convert between standard units, converting measurements of: ➢ length, ➢ mass, ➢ volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places • convert between miles and kilometres • 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 [for example, mm3 and km3].

	• measure and begin to record the following: ➢ lengths and heights ➢ mass/weight ➢ capacity and volume					
Measurement: **Area, Perimeter & Volume**	-	-	-	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares	• 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) • estimate the area of irregular shapes	• 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
Statistics	-	• interpret and construct simple pictograms, tally charts, block diagrams and simple tables • 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	• interpret and present data using bar charts, pictograms and tables • 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	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables	• interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average