Singlewell Primary School cares about being...

Curious
Ambitious
Resilient
Equal
Safe

Maths Curriculum Document

Intent for Maths Curriculum

The intent of our Mathematics curriculum is to be accessible to all and to maximise the development of every child's ability and academic achievement. Every child has an equal opportunity to access maths at their level and pace and this is catered for through differentiation to enhance a safe learning environment. We want children to make rich connections across Mathematical ideas to develop fluency, reasoning and problem solving and their taught resilience will enhance and develop these skills. Within (and beyond) lessons, children are challenged with "next steps" and extensions, creating a culture, where, within lessons, our learners want to be ambitious in all that they access and achieve. Our pupils will learn to apply their Mathematical knowledge not only within their Mathematics lessons but also across the curriculum, for example in Art, Science, Geography and DT. We want our pupils to understand that a confident understanding of Mathematics is the bedrock for Science, Technology and Engineering (STEM), necessary for the management of every day finances and a crucial component of most forms of employment. As our pupils progress, we intend that they: be able to calculate swiftly and accurately; have the ability to reason mathematically; have an appreciation of the beauty and power of mathematics and a sense of enjoyment and curiosity about the subject.

EARLY YEARS FOUNDATION STAGE

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Mathematics	Show 'finger numbers' up to 5 and recite numbers past 5. Say one number name 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'). Link numerals and amounts: show number of objects to match a number Experiment with their own symbols and marks as well as numerals. Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Compare quantities using language: 'more than', 'fewer than'. Solve real world mathematical problems with numbers up to 5. Make comparisons between objects relating to size, length, weight and capacity. Talk about and identify patterns around them. Eg stripes on clothes, designs on rugs and wallpaper. Use language like 'pointy', 'spotty', 'blobs', Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Experiment with their own symbols and marks, as well as numerals.	Mathematics	Count objects, actions and sounds. Count beyond ten. Subitise. Link the number symbol (numeral) with its cardinal number value. 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. Compare length, weight and capacity. Continue, copy and create repeating patterns.	Number	Subitise (recognising quantities without counting) up to 5. Have a deep understanding of numbers to 10, including the composition of each number. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.
				Numerical patterns	Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.

PLACE VALUE

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens Given a number, identify one more and one less Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Read and write numbers from 1 to 20 in numerals and words	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward To recognise the place value of each digit in a two-digit number. (tens, ones) Identify, represent and estimate numbers using different representations, including the number line 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	To recognise the place value of each digit in a three-digit number. (hundreds, tens, ones) Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number 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	To recognise the place value of each digit in a four-digit number. (thousands, hundreds, tens, and ones) Find 1000 more or less than a given number Order and compare numbers beyond 1000 Count backwards through zero to include negative numbers To 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 units, tenths and hundredths 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.	To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit 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 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Use negative numbers in context, and calcuate intervals across 0. To identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
Rounding				To round any number to the nearest 10, 100 or 1,000. To round decimals with one decimal place to the nearest whole number.	To round any number up to 1 ,000, 000 to the nearest 10, 100, 1 000, 10, 000 and 100,000. To round decimals with two decimal places to the nearest whole number and to one decimal place.	To round any whole number to a required degree of accuracy.
Problem Solving		To use place value and number facts to solve problems.	To solve number problems and practical problems involving these ideas.	To solve number and practical problems that involve all of the above and with increasingly large positive numbers.	To solve number problems and practical problems that involve all of the above.	To solve number and practical problems that involve all of the above.

ADDITION AND SUBTRACTION						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Number Bonds	To represent and use number bonds and related subtraction facts within 20.	To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.				
Mental Calculation	To add and subtract one-digit and two-digit numbers to 20, including zero.	To add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * TU + U * Tu + tens * Tu + TU * U+U+U	To add and subtract numbers mentally, including: * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds.		To 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	To perform mental calculations, including with mixed operations and large numbers.
Written Methods	To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.	To show that addition of two numbers can be calculated in any order (commutative) and subtraction of one number from another cannot.	To add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	To add and subtract numbers using two step problems with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Multiply 2 digit and 3 digit numbers by a 1 digit number using formal written layout.	To add and subtract whole numbers with more than 4 digits, including using formal written methods. (columnar addition and subtraction)	To use their knowledge of the order of operations to carry out calculations involving the four operations. Multiply and divide multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication and lomg 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. To solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why. To solve problems involving addition and subtraction.
Inverse Operations, Estimating		To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	To estimate the answer to a calculation and use inverse operations to check answers.	To estimate and use inverse operations to check answers to a calculation.	To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	To use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

MULTIPLICATION AND DIVISION						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication and Division Facts	To count in multiples of twos, fives and tens.	To count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward. To recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	To count from 0 in multiples of 4, 8, 50 and 100. To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	To count in multiples of 6, 7, 9, 25 and 1,000. To recall multiplication and division facts for multiplication tables up to 12 × 12.	To count forwards or backwards in steps of powers of 10 for any given number up to 1,000, 000.	
Mental Calculation		To show that multiplication of two numbers can be calculated in any order (commutative), and division of one number by another cannot.	To 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.	To 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. To recognise and use factor pairs and commutativity in mental calculations.	To multiply and divide numbers mentally drawing upon known facts. To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	To perform mental calculations, including with mixed operations and large numbers.
Written Calculation		To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.	To 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 multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	To 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.	To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. To divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the

			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		To 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	context 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. To use written division methods in cases where the answer has up to two decimal places. To solve problems including multiplication and division.
Properties of Numbers: Multiples, Factors, Square And Cube Numbers				To recognise and use factor pairs and commutativity in mental calculations. (repeated)	To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. To 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}).	To identify common factors, common multiples and prime numbers. To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. To use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

FRACTIONS						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractional Steps		Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of 2/4 and $\frac{1}{2}$.	To count up and down in tenths,	To count up and down in hundredths. Recognise and show, using diagrams, families of common equivalent fractions.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Add and subtract fractions with the same denominator and denominators that are multiples of the same number	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination 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, 4 1 × 2 1 = 8 1] Divide proper fractions by whole numbers [for example, 3 1 ÷ 2 = 6 1]
Recognising Fractions	To recognise, find and name a half as one of two equal parts of an object, shape or quantity. To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	To recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity.	To recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. To recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. To recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. To recognise and show, using diagrams, equivalent fractions with small denominators.	To recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Add and subtract fractions with the same denominator. 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.	To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. 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, 5 2 + 5 4 = 5 6 = 1 5 1] Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Read and write decimal numbers as fractions [for example, 0.71 = 100 71]	To associate a fraction with division and calculate decimal fraction equivalents. (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$)
Comparing Fractions			To compare and order unit fractions, and fractions with the same denominators. Add and subtract fractions with the same denominator within one whole [for example, 7 5 + 7 1 = 7 6] To solve problems that involve all of the above.		To compare and order fractions whose denominators are all multiples of the same number.	To compare and order fractions, including fractions >1. To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

DECIMALS						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Comparing Decimals				To compare numbers with the same number of decimal places up to two decimal places.	To read, write, order and compare numbers with up to three decimal places.	To identify the value of each digit in numbers given to three decimal places.
Rounding including Decimals				To round decimals with one decimal place to the nearest whole number.	To round decimals with two decimal places to the nearest whole number and to one decimal place.	To solve problems which require answers to be rounded to specified degrees of accuracy.
Equivalence (including Fractions, Decimals and Percentages)		To write simple fractions e.g. $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$.	To recognise and show, using diagrams, equivalent fractions with small denominators.	To recognise and show, using diagrams, families of common equivalent fractions. To recognise and write decimal equivalents of any number of tenths or hundredths. To recognise and write decimal equivalents to $^1/_4$; $^1/_2$; $^3/_4$.	To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. To read and write decimal numbers as fractions. (e.g. 0.71 = $^{71}/_{100}$) To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. To 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 as a decimal fraction	To use common factors to simplify fractions; use common multiples to express fractions in the same denomination. To associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction. (e.g. $^3/_8$). To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. To solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.
Multiplication and Division of Decimals				To 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.	To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	To multiply one-digit numbers with up to two decimal places by whole numbers . To multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. To identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.

						To associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction. (e.g. $^{3}/_{8}$) To use written division methods in cases where the answer has up to two decimal places.
Problem Solving			To solve problems that involve all of the above.	To 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 To solve simple measure and money problems involving fractions and decimals to two decimal places. To solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1-digit number, integer scaling problems and harder correspondence problems.	To solve problems involving numbers up to three decimal places. To solve problems which require knowing percentage and decimal equivalents of $^{1}/_{2}$, $^{1}/_{4}$, $^{1}/_{5}$, $^{2}/_{5}$, $^{4}/_{5}$ and those with a denominator of a multiple of 10 or 25.	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 8 3] Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places

RATIO AND PROPORTION						
						Year 6
						Solve problems involving the relative size of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) 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 ad multiples.
ALGEBRA						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						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.

MEASUREMENT						
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Length, weight. Height, volume & capacity	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] Measure and begin to record the following: *lengths and heights * mass/weight * capacity and volume * time (hours, minutes, seconds)	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 simple 2-D shapes	Convert between different units of measure [for example, kilometre to metre; hour to minute] Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Estimate, compare and calculate different measures, including money in pounds and pence	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling Estimate volume and capacity.	
Calculating money	To recognise and know the value of different denominations of coins and notes.	To recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. To find different combinations of coins equalling the same totals To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	To add and subtract amounts of money to give change, using both £ and p in practical contexts.			

Telling Time	To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. To recognise and use language relating to dates, including days of the week, weeks, months and years. 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.	Compare and sequence intervals of time To tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. To know the number of minutes in an hour and the number of hours in a day.	To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. To estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as 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].	To read, write and convert time between analogue and digital 12 and 24-hour clocks. To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	To solve problems involving converting between units of time.	
Area				To find the area of rectilinear shapes by counting squares	To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	To calculate the area of parallelograms and triangles. To recognise that shapes with the same areas can have different perimeters and vice versa. To calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [e.g. mm^3 and km^3]. To recognise when it is possible to use formulae for area and volume of shapes.

Converting Measurement and Time		To know the number of minutes in an hour and the number of hours in a day.	To know the number of seconds in a minute and the number of days in each month, year and leap year.	To convert between different units of measure. (e.g. kilometre to metre; hour to minute) To read, write and convert time between analogue and digital 12 and 24-hour clocks. To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	To convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) To solve problems involving converting between units of time To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.	To 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 three decimal places. To calculate, estimate and compare volume of cubes and cuboids using standard units including cm cubed (cm^3) and cubic metres (m^3), and extending other units such as mm^3 and km. To solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. To convert between miles and kilometres.

	GEOMETRY – PROPERTIES OF SHAPE					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of Shape		Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line Identify and describe the properties of 3-D shapes, 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]				
Drawing and Construction			To draw 2-D shapes and make 3-D shapes using modelling materials; To recognise 3-D shapes in different orientations and describe them.	To complete a simple symmetric figure with respect to a specific line of symmetry.	To draw given angles, and measure them in degrees.	To draw 2-D shapes using given dimensions and angles. To recognise, describe and build simple 3-D shapes, including making nets. To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

Comparing and Classifying		To compare and sort common 2-D and 3-D shapes and everyday objects.		To compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	To use the properties of rectangles to deduce related facts and find missing lengths and angles. To distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Identify 3D shapes include cubes and other cuboids from 2D representations.	To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
	PROPERTIES OF SHAPE – POSITION AND DIRECTION					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Position	To describe position, direction and movement, including half, quarter and three-quarter turns. 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].	Order and arrange combinations of mathematical objects in patterns and sequences. To 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).	To recognise angles as a property of shape or a description of a turn.	To describe positions on a 2-D grid as coordinates in the first quadrant. To describe movements between positions as translations of a given unit to the left/right and up/down. To plot specified points and draw sides to complete a given polygon.	To 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.	To describe positions on the full coordinate grid (all four quadrants) To draw and trasnlate simple shapes on the coordinate plane, and reflect them in the axis.
Angles			To 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. To identify horizontal and vertical lines and pairs of	To identify acute and obtuse angles, compare, and order angles up to two right angles by size.	To know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. To identify: * angles at a point and one whole turn (360°)	To recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

			perpendicular and parallel lines.		* angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) other multiples of 90°	
STATISTICS						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
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.