Mathematician Progression

Progression in Place Value								
	Nursey	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Place Value: Counting	Develop awareness of number names through songs Use number names in play Children will rote count to 5 and 10 Children will count and recognise numbers 1, 2 and 3 Children will understand that not only objects can be counted and will count things such as claps etc	**ONE MORE & ONE LESS** – Predict how many there will be if we add one more or take one away. Notice the link between counting forwards the one more pattern and counting back and the one less pattern. **COUNTING PATTERNS BEYOND 10** – Count on and back beyond 10 from different starting points and say what comes before or after a given number and place sequences of numbers in order.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count numbers to 100 in numerals; count in multiplies of twos, fives and tens.	Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.	Count from 0 in multiples of 4,8, 50 and 100; find 10 or 100 or less than a given number.	Count in multiples of 6, 7, 9, 25 and 1000. Count backwards through zero to include negative numbers.	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. Count forwards and backwards with positive and negative whole numbers, including through zero.	

Place Value: Represent	Children will count with 1:1 correspondence to 5, then 10 Children will count with 1:1 correspondence to 5, knowing the total is 5 Children will show 'finger numbers' up to 5 Children will represent numbers using marks on paper/ pictures Children will be able to select a small number of objects from a group when asked e.g. 'please pass me two apples' Children will subitise to 3	**MATCH** - Find and match objects which are the same. **REPRESENTING 1, 2, 3** – Identify representations of 1, 2, 3, subitise or count to find how many make our own collections of 1, 2, 3 objects. Match number names to numerals and quantities Count to 3 objects in different arrangements and recognise that the final number we say names the quantity of the set. **FOUR** – Count on and back to 4, count or subitise set of up to 4 objects and match number names to numerals and quantities and say which sets have more or fewer items. Represent numbers to 4. **FIVE** – Subitise up to 5 items and count forwards and backwards. Represent up to 5 objects. **6, 7 & 8** - Represent 6, 7 & 8 in different ways and count out required number of objects from a larger group. Order and compare representations of 6, 7 & 8 noticing one more/less patterns as we count on and back to 8. **9 & 10** - Represent 9 & 10 in different ways and subitise groups of 9 & 10. **INTRODUCING ZERO** - Understand that the	Identify and represent numbers using objects and pictorial representations. Read and write numbers to 100 in numerals. Read and write numbers from 1 to 20 in numerals and words.	Read and write numbers to at least 100 in numerals in words. Identify, represent and estimate numbers using different representations, including the number line.	Identify, represent, and estimate numbers using different representations. Read and write numbers up to 1,000 in numerals and in words.	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.	Read, write, (order and compare) numbers to at least 1,000,000 and determine the value of each digit. Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.	Read, write, (order and compare) numbers up to 10,000,000 and determine the value of each digit.

		number zero and the number 0 can be used to represent 'nothing there' or 'all gone'. **BUILDING NUMBERS BEYOND 10** – Build and identify numbers to 20 (and beyond). Recognise that numbers 1-9 repeat after every full 10.						

Place Value: Using and Comparing	Children will identify more and less Children will compare two groups of objects and say when they have the same total	**COMPARE AMOUNTS** – Compare and order sets of objects by having more, fewer or the same amount of items as another set. **COMPARING 1, 2, 3** – Understand each number is one more than the number before counting forwards and each number is one less than the previous when counting backwards, represent one more and one less and make comparisons. **COMPARING NUMBERS TO 5** - Understand/represent that when comparing numbers, one quantity can be more than, the same as or fewer than another quantity. **COMPARING NUMBERS TO 10** - Making comparisons of sets of objects, lining up items with1-1 correspondence Understand that when making comparisons, a set can have more items, fewer items or the same number of items as another set. Compare 2 quantities and then order 3 or more quantities	Given a number, identify one more and one less.	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.	Recognise the pace value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1,000.	Find 1,000 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 1,000.	(Read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit.	(Read, write), order and compare numbers up to 10,000,000 and determine the value of each digit.

Place Value: Problems and Rounding				Use place value and number facts to solve problems.	Solve number problems and practical problems involving these ideas.	Round any number to the nearest 10, 100 or 1,000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Interpret negative numbers in context. Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000. Solve number problems and practical problems that involve all the above.	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 the above.

Progression in Addition & Subtraction								
	EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition & Subtraction: Recall, Represent and Use	Children will know that things change in quantity when something is added or taken away	**COMPOSITION OF 1, 2, 3** – Understand that all numbers are made up of smaller numbers. Notice different compositions of 2 & 3. **COMPOSITION OF 4 & 5** - Understand that all numbers are made up of smaller numbers – compositions of 4&5 Subitise (instantly recognise small quantities without counting) and notice that numbers can be made up of 2 parts or more than 2 parts. **BONDS TO 10** - Use real objects in different contexts to explore number bonds to 10.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20.	Recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. 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.	Estimate the answer to a calculation and use inverse operations to check answers.	Estimate and use inverse operations to check answers to a calculation.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	

Addition & Subtraction: Calculations		**ONE MORE & ONE LESS** – Predict how many there will be if we add one more or take one away Notice the link between counting forwards the one more pattern and counting back and the one less pattern. **COMBINING 2 GROUPS** - Combine 2 groups to find out how many altogether. **ADDING MORE** – Use real objects to see that the quantity of a group can be changed by adding more and represent these numbers. **TAKING AWAY** – Use real objects to see that the quantity of a group can be changed by taking items away.	Add and subtract one-digit and two-digit numbers to 20, including zero.	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.	Add and subtract numbers mentally including: - a three-digit number and ones. - a three-digit number and tens. - a three digit numbers and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	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.	Perform mental calculations, including with mixed operations and large numbers. Use their knowledge of the order of the operations to carry out calculations involving the four operations.
Addition & Subtraction: Solve Problems	Children will solve real world mathematical problems with numbers up to 5	**MAKING PAIRS** - Find and make pairs and understand that a pair is two. Understand that some quantities can have an odd one left over with no partner.	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9.	Solve one-step problems that addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	Solve problems including missing number problems, using number facts, place value, and more complex addition and subtraction.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	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.	Solve addition and subtraction multi-step problems in contexts, deciding which operation and methods to use and why.

Progression in Multiplication & Division								
	Nursey	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication & Division: Recall, Represent and Use		**DOUBLING** – Know that double means 'twice as many'. Build doubles using real objects and mathematical equipment. Sort examples of doubles and non-doubles and explain why. **EVEN & ODD** – Understand that some quantities will share equally into 2 groups, and some won't. Notice that some items can be grouped into pairs, and some will have one left over. Notice odd and even structures.		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.	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	Recall multiplication and division facts for multiplication tables up to 12 x 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.	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}).	

Multiplication & Division: Calculations		**SHARING & GROUPING** – Share items equally and notice when items are not shared fairly Recognise and make equal groups. Notice that sometimes there may be items left over when we share or group and find ways to resolve this.		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.	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.	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	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 1,000.	Multiply multi-digit numbers up to 4 digit s by a two-digit whole number using the formal written method of long multiplication. Divide numbers up to 4 digit 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 digit 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.
Multiplication & Division: Solve 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.	Solve problems involving multiplication and division, sing materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.	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.	Solve problems involving multiplication and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problem such as n objects are connected to m objects.	Solve problems involving multiplication and division including using their knowledge of factors and multiplies, squares and cubes. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Solve problems involving addition, subtraction, multiplication and division.

Multiplication & Division: Combined							Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	Use their knowledge of the order of operations to carry out calculations involving the four operations.

Progression in Fraction, Decimals & Percentages								
	EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions: Recognise and Write			Recognise, find and name a half as one of two equal parts of an object, shape of quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape of quantity.	Recognise, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects of quantity.	Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers of 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.	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	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 (for example $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$).	
Fractions: Compare				Recognise the equivalences of $\frac{2}{4}$ and $\frac{1}{2}$.	Recognise and show, using diagrams, equivalent fractions with small denominators. Compare and order unit fractions, and fractions with the same denominators.	Recognise and show, using diagrams, families of common equivalent fractions.	Compare and order fractions whose denominators are all multiples of the same number.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1.
Fractions: Calculations				Write simple fractions for example $\frac{1}{2}$ of 6 = 3.	Add and subtract fractions with the same denominator within one whole for example $\frac{5}{7}+\frac{1}{7}=\frac{6}{7}$.	Add and subtract fractions with the same denominator.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers, supported by materials and diagrams.	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 $\frac{1}{4}x\frac{1}{2}=\frac{1}{8}$. Divide proper fractions by whole numbers (for example $\frac{1}{3}\div 2=\frac{1}{6}$.

Fractions: Solve Problems					Solve problems that involve all the above.	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.		
Decimals: Recognise and Write						Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$.	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.	Identify the value of each digit in numbers given to three decimal places.
Decimals: Compare						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.	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.	

Decimals: Calculations and Problems						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.	Solve problems involving number up to three decimal places.	Multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places. Multiply one-digit numbers with up to two decimal places by whole numbers. Use written division methods in cases where the answer has up to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy.
Fractions, Decimals & Percentages						Solve simple measure and money problems involving fractions and decimals to two decimal places.	Recognise the per cent symbol (%0 and understand that per cent relates to 'number or 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.	Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction $\frac{3}{8}$. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Progression in Ratio & Proportion								
	Nursey	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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 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 and multiples.

Progression in Algebra								
	Nursey	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra			Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 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.

Progression in Measurement								
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement: Using Measures	**LENGTH AND HEIGHT** Children will compare big and small Children will use language including tall, short, long **MASS** Children will language including light, heavy, full and empty	**COMPARE SIZE, MASS & CAPACITY** – Compare and order items according to their size (big, little, large, small, tall, long, short). **COMPARE MASS** - Make direct comparisons of weight (misconception: bigger items are always heavier). **COMPARE CAPACITY** - Show full, hall full, nearly full and nearly empty. Make direct comparisons of capacity (pouring from one container to another) and indirect comparisons count how many pots it takes to fill each container). **LENGTH & HEIGHT** - Use mathematical language to describe length and height and make comparisons (indirect using objects)	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, les than, half, half full, quarter). - time (for example, quicker, slower, earlier, later). 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; 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).	Convert between different units of measure (for example, kilometre to metre; hour to minute). Estimate, compare and calculate different measures.	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. 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 and time 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.
Measurement: Money			Recognise and know the value of different coins and notes.	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.	Add and subtract amounts of money to give change, using both £ and p in practical contexts.	Estimate, compare and calculate different measures, including money in pounds and pence.	Use all four operations to solve problems involving measure (for example, money).	

Measurement: Time	**TIME** Children will sequence events using language including first, then, after	**NIGHT & DAY** – Order key events in our daily routine using time language (day, night, morning, afternoon, before, after, today, tomorrow). Measure time in simple ways e.g. number of sleeps, timers. **TIME** - Order and sequence important times in our day and use language e.g. now, before, later, soon, after, then, next. Recognise that regular events happen on the same day each week and use 'yesterday', 'today' and 'tomorrow' Describe significant events in our lives and events we are looking forward to and realise some processes take a longer time e.g. growing vegetables.	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. 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 form 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 0'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 events or tasks).	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.	Solve problems involving converting between units of time.	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.

Measurement: Perimeter, Area & volume					Measure the perimeter of 2D shapes.	Measure and calculate the perimeter of 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 (cm^2) and square metres (m^2) and estimate the area of irregular shapes. Estimate volume [for example, using $1cm^3$ blocks to build cuboids (including cubes)] and capacity (for example, using water).	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 (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3).

Progression in Geometry								
	Nursey=	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry: Patterns	Children will sort by colour, size and object Children will match objects that are the same Children will identify patterns around them such as stripes on clothes Children will make an AB repeating pattern Children will notice and correct an error in a repeating pattern	**MAKE SIMPLE PATTERNS** – Copy, continue and create simple repeating patterns exploring AB patterns in a range of contexts (shapes, colours, sizes, actions and sounds). **PATTERN** - Introduce complex patterns e.g. ABB, AAB, AABB, AABBB. **PATTERNS & RELATIONSHIPS** – Investigate relationships between numbers and shapes Copy, continue and create a range of repeating patterns and symmetrical constructions.						

Geometry: 2D Shapes	Children will show an interest in shapes by playing with shapes and making arrangements Children will identify a circle, square and triangle Children will identify shapes in their environment and pictures Children may use the language of sides, corners, straight, flat and round	**CIRCLES & TRIANGLES** – Know that circles have one curved side and triangles have 3 straight sides, recognise these shapes on everyday items and build our own. **SHAPES WITH 4 SIDES** – Identify that squares and rectangles have 4 corners and recognise these shapes on everyday items and build their own. **SPATIAL REASONING** – Understand that shapes can be combined and separated to make new shapes Investigate how many ways a shape can be built using smaller shapes. Explore the different shapes that can be made by combing a set of shapes in different ways.	Recognise and name common 2D shapes (for example quadrilaterals (including squares), pentagons and hexagons).	Identify and describe the properties of 2D shapes, including the number of sides and line of symmetry in a vertical line. Identify 2D shapes on the surface of 3D shapes (for example, a circle on a cylinder and a triangle on a pyramid). Compare and sort common 2D shapes and everyday objects.	Draw 2D shapes.	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2D shapes presented in different orientations.	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Use the properties of rectangles to deduce related facts and missing lengths and angles.	Draw 2D 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.
Geometry: 3D Shapes		**3D SHAPES** - Explore and manipulate 3D shapes (which shapes stack/roll) and start to name them Notice any similarities and differences between 3D shapes.	Recognise and name common 3D shapes (for example, cuboids, (including cubes), pyramids and spheres).	Recognise and name common 3D shapes (for example, cuboids, (including cubes), pyramids and spheres). Compare and sort common 3D shapes and everyday objects.	Make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them.		Identify 3D shapes, including cubes and other cuboids, from 2D representations.	Recognise, describe and build simple 3D shapes, including making nets.

Geometry: Angels & Lines					Recognise angles as a property of shape or a description or a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four make 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.	Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	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 ½ a turn (total 180°). - other multiples of 90°.	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.

Geometry: Position & Direction	Children will use positional language including on top, under, next to and behind	**SPATIAL AWARENESS** – Use positional language to describe how items are positioned in relation to other items. Represent real places we have visited or places in stories. **SPATIAL REASONING** – Select and rotate shapes to fill a given space explaining why we have chosen a specific shape and why a different shape wouldn't fit Match arrangements of shapes using positional language to describe where shapes are in relation to one another. **SPATIAL REASONING** – Understand that places and models can be replicated and use positional language to describe where objects are in relation to other items Visualise simple models. **SPATIAL REASONING** – Understand that maps and plans represent places and can be used to see where things are in relation to other things Create maps to represent models we build, familiar places and places in stories.	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.				

Progression in Statistics								
	Nursey	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics: Present & Interpret				Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Interpret and present data using bar charts, pictograms and tables.	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	Complete, read and interpret information in tables, including timetables.	Interpret and construct pie charts and line graphs and use these to solve problems.
Statistics: Solve Problems				Ask and answer simple questions by counting the numbers of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data.	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.	Solve comparison sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Solve comparisons, sum and difference problems using information presented in a line graph.	Calculate and interpret the mean as an average.