Maths Progression document

	EYFS	Milestone 1		Milestone 2		Milestone 3	
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value							
Counting	**Declarative** Say number words in sequence Match numeral to quantity Link the number symbol (numeral) with its cardinal number value. Subitise up to 5 then 10 **Procedural** Counting an irregular arrangement of up to 10 objects Count objects from a larger group **Conditional** Recognise amounts that amounts that have been rearranged remain the same, if nothing has been added or taken away (conservation).	**Declarative** 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 multiples of twos, fives and tens	**Declarative** count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	**Declarative** count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	**Declarative** count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers	**Declarative** 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	**Declarative** Have a deep understanding of numbers to 10, including the composition of each number.	**Declarative** given a number, identify one more and one less -read and write numbers from 1 to 20 in numerals and words	**Declarative** recognise the place value of each digit in a two-digit number (tens, ones) -read and write numbers to at least 100 in numerals and in words **Procedural** compare and order numbers from 0 up to 100; use <, > and = signs Compose and decompose 2-digit numbers using standard and non-standard partitioning.	**Declarative** recognise the place value of each digit in a three-digit number (hundreds, tens, ones) -read and write numbers up to 1000 in numerals and in words Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of10; apply this to work out how many 10s there are in other 3-digit multiples of 10. **Procedural** compare and order numbers up to 1000 Compose and decompose 3-digit numbers using standard	**Declarative** recognise the place value of each digit in a four-digit number (Thousands, hundreds, tens, and ones) Know that 10 hundreds are equivalent to 1 thousand, and that 1000 is 10 times the size of 100; apply this identify and work out how many hundreds there are in other 4-digit multiples of 100. **Procedural** order and compare numbers beyond 1000 Compose and decompose 4-digit numbers using standard	**Declarative** Read and write numbers to at least 1 000 000 and determine the value of each digit. Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1; Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01; Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01; **Procedural**	**Declarative** Read and write numbers up to 10,000,000 and determine the value of each digit. Understand the relationship between the powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply by 10, 100 and 1000). **Procedural** Compare and order number to at least 10,000,000 Compose and decompose numbers with up to 10

				and non-standard partitioning	and non-standard partitioning.	Compare and order numbers to at least 1,000,000 Compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning	million using standard and non-standard partitioning.
Identifying, Representing and Estimating number.	**Declarative** Show a number of fingers together without counting them. Estimating the number of objects, they can see and checking by counting them.	**Procedural** -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	**Procedural** -identify, represent and estimate numbers using different representations, including the number line	**Procedural** -identify, represent and estimate numbers using different representations	**Procedural** -Estimate numbers using different representation		
Rounding					**Procedural** round any number to the nearest 10, 100 or 1000	**Procedural** round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100,000	**Procedural** round any whole number to a required degree of accuracy
Problem Solving		**Conditional** Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =.	**Conditional** -Reason about the location of any 2-digit number in the linear number system, including identifying the previous and next multiple of 10. use place value and number facts to solve problems.	**Conditional** solve number problems and practical problems involving these ideas. Reason about the location of any 3-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.	**Conditional** solve number and practical problems that involve increasingly large positive numbers Reason about the location of any 4-digit number in the linear number system, including identifying the previous and next multiple of 1000 and 100 and rounding to the nearest of each.	**Conditional** Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. Solve number problems and practical problems that involve all Year 5 Declarative and Procedural knowledge. Interpret negative numbers in context.	**Conditional** Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. Solve number problems and practical problems that involve all Year 6 Declarative and Procedural knowledge.
Roman Numerals				**Declarative** read Roman numerals to 100 (I to C) & know that over time, the numeral system changed to include the concept of zero & place value	**Declarative** read Roman numerals to 1000 (M) and recognise years written in Roman Numerals.		

	EYFS	Milestone 1		Milestone 2		Milestone 3	
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction							
Facts	**Declarative** Say when a number does not match a quantity. Identify smaller numbers within a number (conceptual subitising) Recall number bonds to 5 (without the use of rhymes or counting) and some bonds to 10, including double facts.	**Declarative** Represent and use number bonds and related subtraction facts within 20 Develop fluency in addition and subtraction facts within 10.	**Declarative** Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Secure fluency in addition and subtraction facts within 10. Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	**Declarative** Calculate complements to 100. Understand and use the commutative property of addition, and understand the related property for subtraction			
Addition and subtraction – Mental and written methods.	**Procedural** Compare collections and talk about which group has more or less things. Partition a number in a range of ways and identify that the pairs of numbers make the same total. Check that groups are equal by matching on a one-to-one basis. Say which number is larger by counting or matching one-to-one. Compare numbers that are far apart, near to and next to each other. Understand that a number can be partitioned into more than two groups. **Conditional** Understand how many things are hidden from a known quantity.	**Procedural** 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	**Procedural** Add and subtract numbers using concrete objects, pictorial representations, and mentally, (with number lines or jottings), including: -a two-digit number & ones -a two-digit number and tens -two two-digit numbers -adding three one-digit numbers Add and subtract across 10. Add and subtract within 100 by applying related 1-digit facts. Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?" Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	**Procedural** Add and subtract numbers mentally, including: -a three-digit number and ones -a three-digit number and tens -a three-digit number and hundreds Add and subtract numbers with up to three digits, using formal written methods including expanded method of columnar addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers	**Procedural** Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction Estimate and use inverse operations to check answers to a calculation	**Procedural** Add and subtract whole numbers with more than 4 digits, (and decimals with up to 3 dp) 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	**Procedural** Perform mental calculations, including with mixed operations and large numbers Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. Use their knowledge of the order of operations to carry out calculations involving the four operations
Problem Solving		**Conditional** Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations,	**Conditional** Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving	**Conditional** Solve problems, including missing number problems, using number facts, place value, and more complex	**Conditional** Solve addition and subtraction two-step problems in contexts, deciding which operations and	**Conditional** Solve addition and subtraction multistep problems in contexts, deciding. which operations	**Conditional** Solve addition and subtraction multistep problems in contexts, deciding which operations

		and missing number problems such as 7 = [ ] – 9.	numbers, quantities and measures Apply their increasing knowledge of mental and written methods Recognise and use the inverse relationship between addition & subtraction and use this to check calculations and solve missing number problems	addition and subtraction. Understand the inverse between addition and subtraction, and know how both relate to the part-part-whole structure. Estimate the answer to a calculation and use inverse operations to check answers.	methods to use and why.	and methods to use and why.	and methods to use and why. Solve problems involving addition, subtraction, multiplication and division

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Multiplication and Division							
Facts			**Declarative** Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	**Declarative** Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	**Declarative** Recall multiplication and division facts for multiplication tables up to 12 × 12 Use place value known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	**Declarative** Secure fluency in multiplication table facts, and corresponding division facts, through continued practice Know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Recall prime numbers up to 19. Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	**Declarative** Sustain fluency in multiplication table facts, and corresponding division facts, through continued practice. Identify common factors, common multiples and prime numbers.
Multiplication and Division – Mental and written methods.		**Procedural** Recognise repeated addition contexts, representing them with multiplication equations and calculating	**Procedural** calculate mathematical statements for multiplication and division within the multiplication	**Declarative** Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	**Declarative** Divide 1000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1000 with 2, 4, 5 and 10 equal parts.	**Declarative** Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.	**Procedural** Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long

		the product, within the 2, 5 and 10 multiplication tables.	tables and write them using the multiplication (×), division (÷) and equals (=) signs **Conditional**	**Procedural** 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 and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. **Procedural** Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Use factor pairs and commutativity in mental calculations. Solve division problems, with 2-digit dividends and 1-digit divisors that involve remainders.	Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. **Procedural** 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 whole numbers and those involving decimals by 10, 100 and 1000 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 Find factors and multiples of positive whole numbers, including common factors and common multiples, finding all factor pairs of a number, and express a given number as a product of 2 or 3 factors.	multiplication Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Perform mental calculations, including with mixed operations and large numbers Use their knowledge of the order of operations to carry out calculations involving the four operations
Problem solving		**Conditional** 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.	**Conditional** Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts including problems in context Relate grouping problems where the number of groups is unknown to multiplication equations with a missing	**Conditional** 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. Apply place-value knowledge to known	**Conditional** Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	**Conditional** Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes Solve problems involving multiplication and division including understanding the meaning of the equals sign	**Conditional** 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

			factor, and to division equations (quotative division).	additive and multiplicative number facts (scaling by 10). Apply known multiplication and division facts to solve contextual problems with different structures, including quotative and partitive division Estimate the answer to a calculation and use inverse operations to check answers.	Interpret remainders appropriately according to the context. Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. Understand and apply the distributive property of multiplication. Estimate and use inverse operations to check answers to a calculation.	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

	EYFS	**Milestone 1**		**Milestone 2**		Milestone 3	
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Fractions							
Recognising, Finding, Naming and Writing Fractions **Inc. Equivalent Fractions**		**Declarative** 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.	**Declarative** Recognise, find, name and write fractions 1/3, ¼, 2/4 and 3/4 of a length, shape, set of objects or quantity Recognise the equivalence of 2/4 and 1/2. **Procedural** -Write simple fractions for example ½ of 6 = 3	**Declarative** Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Recognise and show, using diagrams, equivalent fractions with small denominators. Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts Find unit fractions of quantities using known division facts. (multiplication tables fluency). **Procedural** Find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	**Declarative** Recognise and show, using diagrams, families of common equivalent fractions. Recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to ¼ ½ ¾ **Procedural** Show, using diagrams, families of common equivalent fractions Convert mixed numbers to improper fractions and vice versa.	**Declarative** 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, ⅗ + ⅘ = 1 ⅖ Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths, and understand they have the same position in the linear number system. Compare and order fractions whose denominators are all multiples of the same number. Read and write decimal numbers as fractions [for example, 0.71 = 71/100 Recognise and use	**Declarative** Identify the value of each digit in numbers given to three decimal places. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Procedural** Use common factors to simplify fractions Use common multiples to express fractions in the same denomination

				Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators		thousandths and relate them to tenths, hundredths and decimal equivalents Recall decimal fraction equivalents for 1/2, 1/4, 1/5, and 1/10, and for multiples of these unit fractions. Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal Read and write numbers with up to three decimal places. **Procedural** Convert from mixed numbers and improper fractions.	
Counting and ordering				**Declarative** 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 **Procedural** Compare and order unit fractions, and fractions with the same denominators	**Declarative** count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. **Procedural** Compare numbers with the same number of decimal places up to two decimal places. Round decimals with one decimal place to the nearest whole number.	**Procedural** Round decimals with two decimal places to the nearest whole number and to one decimal place Order and compare numbers with up to three decimal places. Compare and order fractions whose denominators are all multiples of the same number	**Procedural** Compare and order fractions, including fractions > 1
Adding, Subtracting, Dividing & Multiplying Fractions				**Procedural** Add and subtract fractions with the same denominator within one whole [for example 5/7 + 1/7 = 6/7	**Procedural** Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. Solve problems involving increasingly harder fractions to calculate quantities, and	**Procedural** Find non-unit fractions of quantities. Add and subtract fractions with the same denominator and denominators that are multiples of the same number	**Procedural** Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

					fractions to divide quantities, including non-unit fractions where the answer is a whole number. 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.	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide proper fractions by whole numbers. Associate a fraction with division and calculate decimal fraction equivalents. Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. Use written division methods in cases where the answer has up to two decimal places.
Problem Solving				**Conditional** Solve problems that involve Year 3 declarative and procedural fractions knowledge. Reason about the location of any fraction within 1 in the linear number system.	**Conditional** Solve simple measure and money problems involving fractions and decimals to two decimals Reason about the location of mixed numbers in the linear number system	**Conditional** Solve problems involving number up to three decimal places Solve problems which require knowing percentage and decimal equivs. and those fractions with a denominator of a multiple of 10 or 25.	**Conditional** Solve problems which require answers to be rounded to specified degrees of accuracy.

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Measurement							
Measuring length, mass, temperature, capacity (volume), perimeter & area	**Procedural** Use comparative language such as taller, shorter and the same Beginning to experiment with length, height and capacity Begin to compare length, weight and capacity	**Procedural** measure and begin to record the following: - lengths and heights -mass/weight -capacity and volume -time (hours, minutes, Seconds **Conditional** Compare, describe and solve practical problems for: lengths/heights, mass/weight, capacity/volume and time.	**Procedural** 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 =	**Procedural** Compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Measure the perimeter of simple 2-D shapes	**Procedural** 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 Find the perimeter of regular and irregular polygons. Find the area of	**Declarative** Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) including using common decimals and fractions. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	**Declarative** 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. Recognise that shapes with the same areas can have different perimeters and vice versa.

					rectilinear shapes by counting squares	**Procedural** Measure and calculate the perimeter of composite rectilinear shapes Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water **Conditional** Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Recognise when it is possible to use formulae for area and volume of shapes. **Procedural** Convert between miles and kilometres Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]. **Conditional** Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
Money	**Declarative** Identifying money and using money in play	**Declarative** Recognise and know the value of different denominations of coins and notes	**Declarative** Recognise and use symbols for pounds (£) and pence (p) **Procedural** Combine amounts to make a particular value Find different combinations of coins that equal the same amounts of money **Conditional** Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	**Procedural** Add and subtract amounts of money to give change, using both £ and p in practical contexts	**Declarative** Add and subtract amounts of money to give change, using both £ and p in practical contexts. **Procedural** Estimate, compare and calculate different measures, including money in pounds and pence		
Time	**Declarative** Recognise attributes of measure and use vocabulary to describe them. **Conditional** Experience specific time spans in order to start to	**Declarative** 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	**Declarative** Tell and write the time to five minutes, including quarter past/to the hour Know the number of minutes in an hour and the number of hours in a day.	**Declarative** Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (am & pm) Estimate and read	**Procedural** Read, write and convert time between analogue and digital 12- and 24-hour clocks Convert from hours to minutes; minutes to	**Conditional** Solve problems involving converting between units of time	

	develop an overall sense of time. Use time to sequence events	**Procedural** Draw the hands on a clock face to show given times. **Conditional** Sequence events in chronological order using language, for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.	**Procedural** Compare and sequence intervals of time Draw the hands on a clock face to show given times	time with increasing accuracy to the nearest minute. 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 yea. **Procedural** Record and compare time in terms of seconds, minutes and hours; Compare durations of events	seconds; years to months; weeks to days. **Conditional** Solve problems involving converting units of time.		

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Geometry - Shapes							
Recognising, naming and drawing, comparing & classifying 2D and 3D shapes.	**Declarative** Describe properties of shapes. Develop an awareness of the properties of shape. Being confident in identifying shapes in the environment. Explore characteristics of everyday objects and shapes and use mathematical language to describe them. **Procedural** Notice shape properties of objects that they want to represent and think about the appropriateness of the shapes they choose.	**Declarative** 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. Know that the above shapes are not always similar to each other. **Procedural** Compose 2-D and 3-D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	**Declarative** 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. **Procedural** Compare and sort common 2-D and 3-D shapes and everyday objects. **Conditional** Compare 2-d and 3-D shapes by reasoning about similarities and differences in properties.	**Declarative** Recognise 3-D shapes in different orientations and describe them. **Procedural** Draw 2-D shapes and make 3-D shapes using modelling materials.	**Declarative** Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. **Procedural** Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	**Declarative** Identify 3-D shapes, including cubes and other cuboids, from 2-D representations **Procedural** Compare areas and calculate the area of rectangles (including squares) using standard units. **Conditional** Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	**Declarative** Recognise and describe simple 3-D shapes. Name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius **Procedural** Draw 2-D shapes using given dimensions and angles. Build simple 3-D shapes, including making nets Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Illustrate and name parts of circles, including radius, diameter and circumference

Angles and symmetry				**Declarative** Recognise angles as a property of shape or a description of a turn identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn. **Procedural** Identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	**Declarative** Identify acute and obtuse angles. **Procedural** Compare and order angles up to two right angles by size Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	**Declarative** Know angles are measured in degrees. Identify: angles at a point and one whole turn (total 360); angles at a point on a straight line and a turn (total 180); other multiples of 90. **Procedural** Estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o) **Conditional** Use the properties of rectangles to deduce related facts and find missing lengths and angles	**Declarative** Recognise angles where they meet at a point, are on a straight line, or are vertically opposite.

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Geometry – Position and Direction							
Describing	**Declarative** Use the language of direction and direction. **Procedural** Notice the results of rotating and reflecting images, and in visualising them. Represent spatial relationships in small world play. Move both themselves and objects around, so they see things from different perspectives.	**Declarative** Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside. **Procedural** Make whole, half, quarter and three-quarter turns in both directions. **Conditional** Connect turning clockwise with movement on a clock face.	**Declarative** 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 anticlockwise)		**Declarative** Describe positions on a 2-D grid as coordinates in the first quadrant **Procedural** Describe movements between positions as translations of a given unit to the left/right and up/down.	**Procedural** 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.	**Declarative** Describe positions on the full coordinate grid (all four quadrants

Representing	**Procedural** Visualise how things will appear when turned around and imagining how things might fit together. Make constructions, patterns and pictures, and select shapes which will fit when rotated or flipped in insert boards, shape sorters and jigsaws. Construct and create things that represent objects in their environment. Notice shape properties of objects that they want to represent and think about the appropriateness of the shapes they choose.		**Conditional** Order and arrange combinations of mathematical objects in patterns and sequences		**Procedural** Plot specified points and draw sides to complete a given polygon. Draw polygons specified by coordinates in the first quadrant, and translate within the first quadrant.	**Declarative** 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	**Procedural** Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

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	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics							
Problem Solving			**Procedural** Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	**Procedural** Interpret and present data using bar charts, pictograms and tables	**Procedural** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	**Procedural** Complete, read and interpret information in tables, including timetables.	**Procedural** Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average.
Representations			**Conditional** 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 & comparing categorical data.	**Conditional** 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.	**Conditional** Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	**Conditional** Solve comparison, sum and difference problems using information presented in a line graph	**Conditional** Solve problems from pie charts and line graphs which have been constructed

	EYFS	Milestone 1		Milestone 2		Milestone 3	
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Algebra							
							Procedural 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

	EYFS	Milestone 1		Milestone 2		Milestone 3	
	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio and Proportion							
Ratio and Proportion							**Procedural** 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 & grouping using knowledge of fractions & multiples.