Maths Curriculum Map – Woolaston – 23-24

Key:

Place Value

Geometry

Multiplication and Division

Addition and Subtraction

Decimals

Fractions

Percentages

Measurement

Statistics

Ratio and Proportion

Algebra

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	**Numbers and Place Value:** - One, two, three, - Four - Five **Addition and Subtraction:** - Sorting into groups	**Number and Place Value:** - Comparing quantities of identical objects - Comparing quantities of non-identical objects **Addition and Subtraction:** Change within 5 - One more - One less **Measurement**: Time - My day	**Addition and Subtraction:** Numbers to 5 - Number bonds to 5 **Number and Place Value:** Numbers to 10 - Counting to 6, 7 and 8 - Counting to 9 and 10 - Comparing groups up to 10	**Addition and Subtraction:** Addition to 10 - Combining two groups to find the whole - Number bonds to 10 – ten frame - Number bonds to 10 – part whole model **Geometry:** Shape and space - Spatial awareness - 3D shapes - 2D shapes	**Geometry:** Exploring patterns - Making simple patterns - Exploring more complex patterns **Addition and Subtraction:** Count on and back - Adding by counting on - Taking away by counting back **Number and Place Value:** Numbers to 20 - Counting to 20	**Multiplication and Division:** Numerical patterns - Doubling - Halving and sharing - Odd and evens **Measurement:** Measure - Length, height and distance - Weight - Capacity
Year 1	**Place Value** - Count to and across 100, forwards and backwards, beginning with 0 or 1, - Count, read and write numbers to 100 in numerals, count in multiples of twos, fives and tens or from any given number - 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. - Given a number, identify one more and one less **Geometry** - Recognise and name common 2D and 3D shapes, including 2D shapes e.g. rectangles (including squares) circles and triangles, and 3D shapes e.g. cuboids, including cubes, pyramids and spheres	**Place Value** - Count to and across 100, forwards and backwards, beginning with 0 or 1, - Count, read and write numbers to 100 in numerals, count in multiples of twos, fives and tens or from any given number - 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 - Given a number, identify one more and one less **Addition and Subtraction** - Represent and use number bonds and related subtraction facts within 20 - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs - Solve one-step problems that involve addition and subtraction, using	**Addition and Subtraction** - Represent and use number bonds and related subtraction facts within 20 - 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 **Measurement** - Compare, describe and solve practical problems for lengths and heights, mass or weight, capacity/volume, time. - Measure and begin to record the following; lengths and heights, mass/weight, capacity and volume, time	Addition and Subtraction - Represent and use number bonds and related subtraction facts within 20 - 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 **Fractions** - Recognise, find and name a half as one of two equal parts of an object, shape or quantity - Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. **Geometry** - Describe position, direction and movement, including	**Addition and Subtraction** - Add and subtract one-digit and two-digit numbers to 20, including zero. **Measurement** - 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. - Sequence events in chronological order using language e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. - Measure and begin to record the following; lengths and heights, mass/weight, capacity and volume, time - Compare, describe and solve practical problems for lengths and heights, mass or weight, capacity/volume, time.	**Multiplication and Division** - Solve one-step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. **Measurement** - Recognise and know the value of different denominations of coins and notes. - Compare, describe and solve practical problems for lengths and heights, mass or weight, capacity/volume, time. - Measure and begin to record the following; lengths and heights, mass/weight, capacity and volume, time

	Addition and Subtraction - Add and subtract one-digit and two-digit numbers to 20, including zero. - Represent and use number bonds and related subtraction facts within 20 - 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	concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9		whole, half, quarter and three-quarter turns		
Year 2	**Number and Place Value** - 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 - Identify, represent and estimate numbers using different representations, including the number line - Compare and order numbers from 0 up to 100; use and = signs - Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward - Use place value and number facts to solve problems. **Geometry** - Identify and describe the properties of 2-D shapes, including the number of sides and	**Addition and Subtraction** - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot - Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 - Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	**Multiplication and Division** - Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts **Place value** - Count in steps of 2, 3, and 5 from 0 **Measurement**	**Fractions** - Recognise, find, name and write fractions 1/3 , 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity - Write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of two quarters and one half **Measurement** - 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. - Compare and sequence intervals of time. - Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.	**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.** **Measurement** - 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 volume/capacity and	Securing year 2 through revisiting the following objectives: Objctives to secure: **Place Value** - 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. **Addition and Subtraction** - using concrete objects and pictorial representations, including those

	line symmetry in a vertical line. - Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. **Addition and Subtraction** - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot - Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 - Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. - Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods	- Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods **Geometry** - Identify 2-D shapes on the surface of 3-D shapes(for example a circle on a cylinder and a triangle on a pyramid) - Compare and sort common 2-D and 3-D shapes and everyday objects. **Multiplication and Division** - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs - Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	- 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 =	- 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	record the results using >,< and =.	involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods - recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 - add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers - show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. **Multiplication and Divison** - recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs - show that multiplication of two numbers can be done in any order

						(commutative) and division of one number by another cannot - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.
Year 3	**Number and Place Value** - 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 - Identify, represent and estimate numbers using different representations - Count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more or less than a given number - Compare and order numbers up to 1000 - Solve number problems and practical problems involving these ideas. - Count up m objects. 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 **Geometry** - Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. - Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them	**Multiplication and Dvision** - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, includingfor 2-digit numbers times 1-digit numbers, using mental progressing to formal written methods - Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects **Addition and Subtraction** - Add and subtract numbers mentally, including: * a three digit number and ones * a three-digit number and tens * a three-digit number and hundreds - Estimate the answer to a calculation and use inverse operations to check answers - Solve problems, including missing number problems, using	**Fractions** - Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators - Compare and order unit fractions and fractions with the same denominators. - Recognise and show, using diagrams, equivalent fractions with small denominators - Solve problems that involve all of the above. (Fractions) **Addition and Subtraction** - Add and subtract numbers with up to three digits, using the formal written methods of columnar addition and subtraction - Estimate the answer to a calculation and use inverse operations to check answers - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	**Multiplication and Division** - Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, includingfor 2-digit numbers times 1-digit numbers, using mental progressing to formal written methods. - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables - 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 **Measurement** - Add and subtract amounts of money to give change, using both £ and p in practical contexts	**Fractions** - 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. - Add and subtract fractions with the same denominator within one whole **Measurement** - Know the number of seconds in a minute and the number of days in each month, year and leap year. - Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon,noon and midnight. - Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks - Compare durations of events	**Measurement** - Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/ capacity (l/ml) - Measure the perimeter of simple 2-D shapes **Geometry** - Recognise angles as a property of shape or a description of a turn - Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle **Statistics** - Interpret and present data using bar charts, pictograms and tables. - Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.

		number facts, place value, and more complex addition and subtraction				
Year 4	**Number and Place Value** - *Recognise the place value of each digit in a four-digit number* - *Identify,represent and estimate numbers using different representations.* - *Count in multiples of 6, 7, 9, 25 and 1000* - *Find 1000 more or less than a given number.* - *Order and compare numbers beyond 1000* - *Round any number to the nearest 10, 100 or 1000* - *Count backwards through zero to include negative numbers* - *Read Roman numerals to 100 and know that, over time, the numeral system changed to include the concept of zero and place value* - *Solve number and practical problems that involve all of the above and with increasingly large positive numbers* **Geometry** - *Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.* - *Identify lines of symmetry in 2-D shapes presented in different orientations* - *Complete a simple symmetric figure with respect to a specific line of symmetry.*	**Multiplication and Division** - *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* **Addition and Subtraction** - *Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate* - *Estimate and use inverse operations to check answers to a calculation* - *Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why* **Multiplication and Division** - *Recall multiplication and division facts for multiplication tables up to 12 × 12.*	**Multiplication and Division** - *Recall multiplication and division facts for multiplication tables up to 12 × 12.* - *Recognise and use factor pairs and commutativity in mental calculations.* **Addition and Subtraction** - *Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate* - *Estimate and use inverse operations to check answers to a calculation* - *Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why*	**Multipliation and Division** - *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.* - *Multiply two-digit and three-digit numbers by a one-digit number using formal written layout* - *Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems, such as n objects are connected to m objects.* **Geometry** - *Identify acute and obtuse angles and compare and order angles up to two right angles by size.*	**Decimals** - Recognise and write decimal equivalents of any number of tenths or hundredths. - Count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten. - 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. - 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. - Convert between different units of measure (e.g. kilometre to metre; hour to minute) **Fractions** - 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. - Recognise and write decimal equivalents to ¼ , ½ , ¾	**Measurement** - 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. - Convert between different units of measure (e.g. kilometre to metre; hour to minute). - Estimate, compare and calculate different measures, including money in pounds and pence - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. - Find the area of rectilinear shapes by counting squares. **Goemetry** - Describe positions on a 2-D grid as coordinates in the first quadrant. - Plot specified points and draw sides to complete a given polygon. - Describe movements between positions as translations of a given unit to the left/ right and up/ down **Statistics** - Interpret and present discrete and continuous data using appropriate

					- Recognise and show, using diagrams, families of common equivalent fractions	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 simple measure and money problems involving fractions and decimals to two decimal places
Year 5	**Place value and number** - Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 - Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 - Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero - Read Roman numerals to 1000 and recognise years written in Roman numerals - Solve number problems and practical problems that involve all of the above **Decimals** - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - Read, write, order and compare numbers with up to three decimal places.	**Addition and subtraction** - Add subtract numbers mentally with increasingly large numbers - Add and subtract whole numbers with more than 4 digits, including using formal written methods - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Solve problems involving number up to three decimal places. **Multiplication and Division** - Multiply and divide whole numbers and those involving decimals by 10,100 and 1000. - Establish whether a number up to 100 is prime and recall prime numbers up to 19. - Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	**Multiplciation and Division** - 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 - Solve problems involving addition, subtraction,multiplication and division and a combination of these, including understanding the meaning of the equals sign - Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Geometry** - Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that	**Fractions, decimals and percentages** - Compare and order fractions whose denominators are all multiples of the same number - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - Read and write decimal numbers as fractions - Solve problems involving number up to three decimal places. - 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 hundred, and as a decimal. - Solve problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25. **Measurement** - Convert between different units of metric measure - Measure and calculate the perimeter of	**Fractions** - Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as mixed numbers - Add and subtract fractions with the same denominator and denominators that are multiples of the same number - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	**Measurement** - 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 (e.g. using 1 cm blocks to build cuboids (including cubes)) and capacity **Geometry** - Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles. - Use the properties of a rectangle to deduce related facts and find missing lengths and angles. - Draw given angles and measure them in degrees - Identify angles at a point and one whole turn, angles at a point on a straight line and ½ a turn, other multiples of 90 - Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. **Measurement**

	- Round decimals with two decimal places to the nearest whole number and to one decimal place. - Read and write decimal numbers as fractions - Solve problems involving number up to three decimal places. **Geometry** - Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers factor pairs of a number, and common factors of two numbers. - Recognise and use square numbers and cube numbers, and the notation for squared and cubed - Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	the shape has not changed.	composite rectilinear shapes in centimetres and metres. - 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 (e.g. length, mass, volume, money) using decimal notation, including scaling.		- Solve problems involving converting between units of time. **Statistics** - Complete, read and interpret information in tables, including timetables - Solve comparison, sum and difference problems using information presented in a line graph.
Year 6	For year 6, some units have been merged together. This is due to some objectives linking between different units. For these obectives, colours will be used to identify the unit that the objective links to.					
	Place Value and Number - Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit - Round any whole number to a required degree of accuracy - Use negative numbers in context, and calculate intervals across zero - Solve number problems and practical problems that involve all of the above. **Decimals** - Identify the value of each digit to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places - Multiply one-digit numbers with up to two decimal places by whole numbers.	**Fractions, Decimals and Percentages** - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination - Compare and order fractions, including fractions >1 - Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts **Geometry** - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. - Compare and classify geometric shapes based	**Fractions** - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - Multiply simple pairs of proper fractions, writing the answer in its simplest form - Divide proper fractions by whole numbers Suggested Mock Sats at end of term	**Ratio and Proportion** - Solve problems involving calculation of percentages and the use of percentages for comparison - Solve problems involving unequal sharing and grouping, using knowledge of fractions and multiples. - Solve problems involving similar shapes where the scale factor is known or can be found. - Solve problems involving the relative sizes of two quantities, where missing values can be found by using integer multiplication and division facts **Measurement** - Use, read, write and convert between standard units, converting measurements of length, mass, volume	**Statistics** - Interpret and construct pie charts and line graphs and use these to solve problems - Calculate and interpret the mean as an average Targeted Revision SATs Extra Problem Solving	Secure year6 through revisiting the following objectives: Objectives to secure: **Fractions, Decimals and Percentages** - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination - Compare and order fractions, including fractions >1 - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g.1/4 x ½ = 1/8) - Divide proper fractions by whole numbers - Associate a fraction with division and

	- 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 **Multiplication and Division** - Identify common factors, common multiples and prime numbers. - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - Divide numbers up to 4 digits by a two digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. - Divide numbersup 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. - Perform mental calculations, including with mixed operations and large numbers. - Solve problems involving addition, subtraction, multiplication and division - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why (taught as part of	on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. - Draw 2-D shapes using given dimensions and angles. - Recognise, describe and build simple 3-D shapes, including making nets. - Illustrate and name parts of circles, including radius, diameter and circumference, and know that the diameter is twice the radius **Addition, Subtraction, Multiplication and Division** - Use their knowledge of the order of operations to carry out calculations involving the four operations		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. - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate. - Recognise that shapes with the same areas can have different perimeters and vice versa. - Calculate the area of parallelograms and triangles. - Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed and cubic metres and extending to other units - Recognise when it is possible to use formulae for area and volume of shapes. **Algebra** - Use simple formulae - Enumerate possibilities of combinations of two variables - Find pairs of numbers that satisfy an equation with two unknowns - Generate and describe linear number sequences - Express missing number problems algebraically.		calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) - Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places - Multiply one-digit numbers with up to two decimal places by whole numbers. - Use written 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. - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Algebra** - 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. **Ratio and Proportion** - Solve problems involving the relative sizes of two quantities, where missing values can be found by using integer multiplication&division facts. - Solve problems involving calculation of percentages and the

	Multiplication and division). **<u>Geometry</u>** - Describe positions on the full coordinate grid (all four quadrants). - Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.					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.