Applecroft School Maths End Points

Maths End Points are the key objectives that we would expect each child to have mastered before moving onto the next year group's curriculum. Without mastering these End Points, the children may develop gaps in their learning

Y1			
Learning Sequences	**Place Value:** 1LS 2,3,4,5,7,8,9,10,11,12,13,17,18,19,20,21,22,24,35,36,37 **Addition & Subtraction**: 1LS6,17,18 **Multiplication & Division**: 1LS12,24,26,27,28,29 **Fractions**: 1LS32,33,34 **Measurement:** 1LS15,16,23,31,34 **Geometry: Properties of Shape**: 1LS14,33 **Geometry: Position & Direction:** 1LS31		
	Autumn	**Spring**	**Summer**
	Number & Place Value: • Can identify the value of numbers to 20 within the linear number system, including comparing using < > and = • Identify and represent numbers using objects and pictorial representation including a number line and use the language of equal to, more than, less than, (fewer) most, least	**Number & Place Value** • Count in multiples of 2's, 5's and 10's • Given a number, identify one more or one less	**Number & Place Value** • Count within 100, forward and backwards, starting with any given number • Count forwards and backwards in multiples of 2,5 and 10s • Uses the language of more, less, fewer, most, least, equal to • Knows that 10 ones is equal to 1 ten and can identify equality in teen numbers e.g. 15 ones = 1 ten and 5 ones
	Addition & Subtraction • Represent and use number bonds and related subtraction facts within 10	**Addition & Subtraction** • Represent and use number bonds and related subtraction facts within 20	**Addition & Subtraction** • Can regroup numbers within 10 and use these efficiently to make

	• Read, write and interpret mathematical statements involving addition, subtraction and equal signs • Add and subtract one-digit numbers to 10 including 0 • Solve one step problems that involve addition and subtraction using concrete objects and pictorial representation and missing number problems	• Add and subtract one-digit numbers to 20 including 0 • Solve one step problems that involve addition and subtraction using concrete objects and pictorial 7=? -9	10 and some more when adding e.g. 7+8 = 7+3+5
	Multiplication & Division • Recall and use multiplication facts for 2, 5 and 10 times tables including recognising odd and even numbers • Calculate mathematical statements for 2, 5 and 10's using multiplication and division using x, ÷ and = • Solve problems using multiplication and division using, materials, arrays, repeated addition and mental methods • Show that multiplication of two numbers can be done in any order (commutative) but division cannot.	**Multiplication & Division**	**Multiplication & Division** • Count in multiples of 2's, 5's and 10's • Solve one step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays
	Fractions	**Fractions**	**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
	Measurement	**Measurement** • Measure and begin to record lengths and heights • Compare, describe and solve practical problems for lengths and heights e.g. long/ short, longer/ shorter, tall/ short, double / half • Measure and begin to record mass/ weight, capacity and volume • Compare, describe and solve practical problems for mass / weight e.g. heavy, light, heavier than / lighter than, capacity and volume e.g. full / empty, more than/ less than, half, half full, quarter	**Measurement** • Recognise and know the value of different denominations of coins and notes • Sequence events in chronological order using language e.g. before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening • Recognise and use language relating to dates including days of the week, weeks, months and years • Tell the time in the hour and half past the hour and draw hands on a clock face to show these times • Compare, describe and solve practical problems for time e.g. quicker, slower, earlier, later • Measure and begin to record time e.g. hours, minutes and seconds
	Geometry: Properties of Shape • Recognise and name common 2-D shapes e.g. square, circle and triangles	**Geometry: Properties of Shape**	**Geometry: Properties of Shape**

	• Recognise and name common 3-D shapes e.g. cuboids, cubes, pyramids and spheres		
	Geometry: Position & Direction	**Geometry: Position & Direction**	**Geometry: Position & Direction** • Describe position, direction and movement including whole, half, quarter and three quarter turns • Is developing spatial thinking and spatial language linked to position, direction and movement including turns

Y2			
Learning Sequences	**Place Value:** 2LS3, 4, 5, 41 **Addition & Subtraction**: 2LS7, 9, 15, 16, 17, 18, 41 **Multiplication & Division**: 2LS23, 24, 25, 35 **Fractions**: 2LS10,19,21,28,29,30,31,32 **Measurement:** SLS5, 11, 12, 13, 19, 20, 33, **Geometry: Properties of Shape**: 2LS36, 37, **Geometry: Position & Direction:** 2LS39, 40 **Statistics**: 2LS 14		
	Autumn	**Spring**	**Summer**
	Number & Place Value: • Read & Write numbers to at least 100 in numerals and words • Recognise the place value of each 2-digit number (tens & ones) • Compare and order numbers from 0 – 100 using signs < > and = • Identify, represent and estimate numbers using different representations, including a number line • Use place value and number facts to solve problems • Count in Steps of 2, 3, 5 and tens from any number forwards and backwards	**Number & Place Value**	**Number & Place Value**
	Addition & Subtraction • Recall and use addition and subtraction facts to 20 fluently • Derive and use related facts up to 100	**Addition & Subtraction** • Show that addition of two numbers can be done in any order (commutative)	**Addition & Subtraction**

	• Add and subtract numbers mentally including a two-digit number and ones, two-digit number and tens, two two-digit numbers and adding three one-digit numbers	• Solve problems with addition and subtraction using concrete objects and pictorial representations	
	Multiplication & Division	**Multiplication & 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 2,5 and 10s using multiplication and division using x, ÷, and = • Show that multiplication of two numbers can be done in any order (commutative) but division cannot • Solve problems using multiplication and division using materials, arrays, repeated addition, and mental methods	**Multiplication & Division** • Count in multiples of 2's, 5's and 10's • Solve one step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays • Can recognise two structures of division – grouping and sharing – and can identify which structure is represented
	Fractions • Can identify and describe wholes grouped into equal parts including using symbols (+, -, x, ÷,, =) and linking to fraction notation for halves and quarters	**Fractions** • Tell and write the time to five minutes, including **quarter** past, **quarter** to, **half** past	**Fractions** • Recognise, find, name and write fractions of a length, set of objects and pictorial representations: ½, 1/3, ¼, 2/4, and 3/4 • Write simple fractions for example ½ of 6 = 3 • Recognise the equivalence of 2/4 and ½

	Measurement • **Recognise and use symbols for pounds (£) and pence (p)** • **Combine amounts to make a particular value** • **Find different combinations of coins that make the same amount of money** • **Solve simple problems practically, including addition and subtraction and giving change** • **Choose and use appropriate standard units to estimate and measure length /height in any direction (m, cm); mass (kg, g); temperature (°C** • **Compare and order lengths, mass, volume/ capacity and record the results using < > and =**	**Measurement** • 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	**Measurement** • Tell the time to the nearest 5 minutes • Compare and sequence intervals of time
	Geometry: Properties of Shape	**Geometry: Properties of Shape**	**Geometry: Properties of Shape** • Identify and describe the properties of 2-D shapes. Including the number of sides and 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 e.g. circle on a cylinder and a triangle on a pyramid

			• Compare and sort common 2-D and 3-D shapes and everyday objects
	Geometry: Position & Direction	**Geometry: Position & Direction**	**Geometry: Position & Direction** • Order, describe and arrange combinations of mathematical objects in patterns and sequences • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line • Distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
		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 ad comparing categorical data	

Y3			
Learning Sequences	**Place Value:** 3LS1, 2 **Addition & Subtraction**: 3LS5, 6, 7, 8, 9, 10, 23 **Multiplication & Division**: 3LS16, 17, 18, 20, 25, 26, 27, 28, 29, 30, 35, 36, 37, **Fractions**: 3LS21, 22, 23, 24, **Measurement:** 3LS4, 15, 31, 32, 33, 38 **Geometry: Properties of Shape**: 3LS12, 39 **Geometry: Position & Direction:** 3LS12, 13, 14 **Statistics**: 3LS19		
	Autumn	**Spring**	**Summer**
	Number & Place Value: • Recognise the place value of each digit in a three-digit number • Identify, represent and estimate using different representations • Find 10 or 00 more or less than a given number • Compare and order numbers up to 1000 • Read and write numbers in numerals and words up 10 1000 • Solve number problems and practical problems involving these ideas • Count from 0 in multiples of 4,8,50 and 100	**Number & Place Value**	**Number & Place Value** • Count on and back in tenths • Can recognise the place value of each digit in 3-diigt numbers including values to one decimal place knowing that 10 tenths is equal to one
	Addition & Subtraction • Add and subtract numbers mentally, including a three-digit number and ones, a three-digit number and tens	**Addition & Subtraction**	**Addition & Subtraction**

	and a three-digit number and hundreds • Add and subtract numbers with up to three digits, using formal written methods of column 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. • Can understand and choose when to use formal written addition and subtracting strategies, checking reasonableness through checking		
	Multiplication & Division	**Multiplication & Division** • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving multiplication and division	**Multiplication & Division** • Can identify number of groups, size of groups and relationships between these when finding the product or the quotient

		• Solve problems including positive integer scaling problems and correspondence problems in which n objects are connected to m objects e.g. 12 sweets shared equally between 4 children, 3 hats and 4 coats – how many different outfits.	
	Fractions	**Fractions** • Count up and down in tenths • Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • Recognise and show, using diagrams, equivalent fractions with small denominators • Add and subtract fractions with the same denominator within one whole (for example, $^5/_7 + {}^1/_7 = {}^6/_7$) • Compare and order unit fractions, and fractions with the same denominators.	**Fractions** • To find 10x times or 10 times smaller than a given number

		• Solve problems that involve all of the above.	
	Measurement • Measure the perimeter of simple 2-D shapes • Add and subtract amounts of money to give change, using both £ and p in practical contexts.	**Measurement**	**Measurement** • Measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g) and volume/capacity (l/ml) • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • Estimate and read time with increasing accuracy to the nearest minute • Record and compare time in terms of seconds, minutes and hours • Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events e.g. to calculate the time taken by particular events or tasks.
	Geometry: Properties of Shape • Draw 2-D shapes and make 3-D shapes using modelling materials.	**Geometry: Properties of Shape**	**Geometry: Properties of Shape** • Recognise 3-D shapes in different orientations and describe them • Recognise that angles are a property of shape or a description of a turn

			• Identify right angles.
	Geometry: Position & Direction • 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 • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	**Geometry: Position & Direction**	**Geometry: Position & Direction**
		Statistics • Interpret and present data using bar charts, pictograms and tables • Solve one-step and two-step questions e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.	

Y4			
Learning Sequences	**Place Value:** 4LS1, 2, 8, 28, 29 **Addition & Subtraction**: 4LS3, 4, 8 **Multiplication & Division**: 4LS5, 6, 7, 8. 9, 24, 25 **Fractions**: 4LS16, 17 **Measurement:** 4LS10,11, 12, 26, 35 **Geometry: Properties of Shape**: 4LS14, 15, 30, 31 **Geometry: Position & Direction:** 4LS32, 33 **Statistics**: 4LS12, 27,		
	Autumn	**Spring**	**Summer**
	Number & Place Value: • Count in multiples of 6, 7, 9, 25 and 1000 • Find 1000 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 1000 • Identify, represent and estimate numbers using different representations • Round any number to the nearest 10, 100 or 1000 • Solve number and practical problems that involve all of the above and with increasingly large positive numbers	**Number & Place Value**	**Number & Place Value** • 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 • Count backwards through zero to include negative numbers

	Addition & Subtraction • Add and subtract numbers with up to 4 digits using the formal written methods of column 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	**Addition & Subtraction**	**Addition & Subtraction**
	Multiplication & 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 • Recognise and use factor pairs and commutativity in mental calculations • 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	**Multiplication & Division** • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout • Divide two- and three-digit numbers by a one digit number using a formal written layout	**Multiplication & Division**
	Fractions	**Fractions**	**Fractions**

		• Recognise and show, using diagrams, families of common equivalent fractions – connect hundredths to tenths and place value and decimal measure • Count up and down in hundredths; • Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number • Add and subtract fractions with the same denominator • Recognise and write decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to $^1/_4$; $^1/_2$; $^3/_4$ • Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places	

		Solve simple measure and money problems involving fractions and decimals to two decimal places.	
	Measurement • Convert between different units of measure e.g. kilometre to metre; hour to minute • Measure and calculate the perimeter of a rectilinear figure, including squares, in centimetres and metres	**Measurement** • Estimate, compare and calculate different measures, including money in pounds and pence	**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 • Find the area of rectilinear shapes by counting squares
	Geometry: Properties of Shape	**Geometry: Properties of Shape** • 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	**Geometry: Properties of Shape** • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • Identify acute and obtuse angles • Compare and order angles up to two right angles by size •
	Geometry: Position & Direction	**Geometry: Position & Direction**	**Geometry: Position & Direction** • Describe positions on a 2-D grid as coordinates in the first quadrant • Describe movements between positions as translations of a given unit to the left/right and up/down

			• Plot specified points and draw sides to complete a given polygon
	Statistics • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	**Statistics**	**Statistics** • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs

Y5			
Learning Sequences	**Place Value:** 5LS1, 2, 3, 40 **Addition & Subtraction**: 5LS9, 10, 16, 35, **Multiplication & Division**: 5LS4, 5, 6, 7, 8,11, 12, 16,29, 30, 35 **Fractions**: 5LS13,14,15, 17, 18, 22, 23, 31, 33, **Measurement:** 5LS19, 32, 34 **Geometry: Properties of Shape**: 5LS20, 21, 24, 26, 27, 28, 26, 37 **Geometry: Position & Direction:** 5LS25 **Statistics**: 5LS38, 39		
	Autumn	**Spring**	**Summer**
	Number & Place Value: • Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit • Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • Interpret negative numbers in context • Count forwards and backwards with positive and negative whole numbers, including through zero • Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000 • Solve number problems and practical problems that involve all of the above	**Number & Place Value**	**Number & Place Value** • Read Roman numerals to 1000 (M) • Recognise years written in Roman numerals.
	Addition & Subtraction • Add and subtract whole numbers with more than 4 digits, including	**Addition & Subtraction** • Solve addition and subtraction multi-step problems in contexts,	**Addition & Subtraction**

	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	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	
	Multiplication & Division • 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 • 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	**Multiplication & Division** • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	**Multiplication & Division** • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes

	• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • Recognise and use square numbers and cube numbers, & the notation for squared (^{2}) & cubed (^{3}) • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes		
	Fractions • Compare and order fractions whose denominators are all multiples of the same number • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $^2/_5 + {}^4/_5 = {}^6/_5 = 1^1/_5$] • Add and subtract fractions with the same denominator and multiples of the same number • Read and write decimal numbers as fractions e.g. 0.71 = $^{71}/_{100}$ • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	**Fractions** • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred" • Write percentages as a fraction with denominator 100, 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 with a denominator of a multiple of 10 or 25	**Fractions**

	• 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 • Solve problems involving number up to three decimal places		
	Measurement	**Measurement** • Convert between different units of metric measure e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • Calculate and compare the area of rectangles, including squares, using standard units, square centimetres (cm^2) & square metres (m^2) • Estimate the area of irregular shapes • Estimate volume e.g. using 1 cm^3 blocks to build cuboids, including cubes, and capacity e.g. using water • Solve problems involving converting between units of time • Use all four operations to solve problems involving measure e.g. length, mass, volume, money	**Measurement** • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints •

		• Using decimal notation including scaling	
	Geometry: Properties of Shape	**Geometry: Properties of Shape** • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations • 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°) and other multiples of 90°	**Geometry: Properties of Shape** • Use the properties of rectangles to deduce related facts and find missing lengths and angles • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles • Can draw, measure, compare and identify angles using knowledge of turns, lines and regular shapes
	Geometry: Position & Direction	**Geometry: Position & Direction** • 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	**Geometry: Position & Direction**
	Statistics	**Statistics**	**Statistics** • Solve comparison, sum and difference problems using information presented in a line graph • Complete, read and interpret information in tables, including timetables.

Y6			
Learning Sequences	**Place Value:** 6LS1 **Addition & Subtraction**: 6LS3, 4, 31 **Multiplication & Division**: 6LS2, 3, 4, 5, 12, 14, 17, 31 **Fractions**: 6LS6, 7, 8, 9, 10, 11, 21, 22, 23, **Measurement:** 6LS26, **Geometry: Properties of Shape**: 6LS13, 15, 18, 19, 25, **Geometry: Position & Direction:** 6LS20 **Statistics**: 6LS27, 29, 32, 33, **Algebra**: 6LS16, 28, 34 **Ratio & Proportion**: 6LS24		
	Autumn	**Spring**	**Summer**
	Number & Place Value: • 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 and practical problems that involve all of the above	**Number & Place Value** • Can count on and back across zero in a variety of different decimal and fractional steps • Can compare, order and round integers, decimals, percentages and fractions, including values > 1 • Can recognise relevant strands of their own knowledge and use this to model and solve problems, interpreting results appropriately given the context, e.g. using the remainder to round appropriately	**Number & Place Value**
	Addition & Subtraction • Solve addition and subtraction multi-step problems in contexts,	**Addition & Subtraction**	**Addition & Subtraction**

	deciding which operations and methods to use and why • Use their knowledge of the order of operations to carry out calculations involving the four operations • Solve problems involving addition, subtraction, multiplication and division		
	Multiplication & Division • Identify common factors, common multiples and prime numbers • Use their knowledge of the order of operations to carry out calculations involving the four operations • Solve problems involving addition, subtraction, multiplication and division • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • Interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context	**Multiplication & Division** • Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division	**Multiplication & Division**

	• Perform mental calculations, including with mixed operations and large numbers • Identify common factors, common multiples and prime numbers • Use their knowledge of the order of operations to carry out calculations involving the four operations • Solve problems involving addition, subtraction, multiplication and division		
	Fractions • 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 • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $^{3}/_{8}$] • Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up	**Fractions** • Solve problems which require answers to be rounded to specified degrees of accuracy • Divide proper fractions by whole numbers [for example, $^{1}/_{3} \div 2 = {}^{1}/_{6}$] • Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $^{1}/_{4} \times {}^{1}/_{2} = {}^{1}/_{8}$]	**Fractions**

	• 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 • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.		
	Measurement • 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 centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units e.g. mm^3 and km^3	**Measurement** • Recognise that shapes with the same areas can have different perimeters and vice versa • 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 • Solve problems involving the calculation and conversion of units of measure, using decimal notation	**Measurement**

		up to three decimal places where appropriate	
	Geometry: Properties of Shape • Draw 2-D shapes using given dimensions and angles • Recognise, describe and build simple 3-D shapes, including making nets • Compare and classify geometric shapes based on their properties and sizes	**Geometry: Properties of Shape** • Find unknown angles in any triangles, quadrilateral and regular polygons • Illustrate and name parts of circles, including radius, diameter and circumference • Know that the diameter is twice the radius • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite • Find missing angles • Can use knowledge of shapes and scaling to solve problems including finding unknown lengths, areas, volumes and angles	**Geometry: Properties of Shape**
	Geometry: Position & Direction	**Geometry: Position & Direction** • Describe positions on the full coordinate grid (all four quadrants) • Draw and translate simple shapes on the coordinate plane • Reflect simple shapes in the axes • Can translate, reflect and describe positions on the full coordinate grid and knows that the shape doesn't change	**Geometry: Position & Direction**
	Statistics	**Statistics**	**Statistics** • Calculate and interpret the mean as an average

		• Interpret and line graphs pie charts and use these to solve problems	• Construct pie charts
		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 e.g. of measures 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	
		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	

		• Can manipulate part, whole models making wider connections continuing with a wide range of number representations	