JOHN WHEELDON PRIMARY ACADEMY

MATHS LONG TERM PLAN

EYFS – taken from **the Statutory framework for the early years foundation stage** and **Development Matters** Non-statutory curriculum guidance for the early years foundation stage.

Mathematics

ELG: Number

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

ELG: Numerical Patterns

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

The national curriculum primary programmes of study and attainment targets for key stages 1 and 2

Mathematics

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

	AUTUMN TERM	SPRING TERM	SUMMER TERM
EYFS	In Reception we continually revisit the following objectives throughout the year: • Count objects, actions and sounds. • Subitise. (recognise quantities without counting) up to 5 • Count beyond ten. • Count verbally beyond 20, recognising the pattern of the counting system; • Compare numbers / quantities up to 10 in different contexts • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore and have a deep understanding of numbers to 10 including the composition of each number. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. • Automatically recall number bonds for numbers 0–5 (including subtraction facts). and some number bonds to 10 including double facts • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. • Continue, copy and create repeating patterns. • Compare length, weight and capacity.		

YEAR 1	AUTUMN TERM	SPRING TERM	SUMMER TERM
	Number Place Value (Within 10) To count to and across 100, forwards and backward, beginning with 0 or 1, or from any given number. To count, read and write numbers to 50 in numerals; When given a number, identify one more and one less to 20. To 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 To read and write numbers from 1 to 10 in numerals and words. **Number Addition and Subtraction (Within 10)** To read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs To represent and use number bonds and related subtraction facts within 10 To add and subtract one-digit and two-digit numbers to 10, including zero To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9. **Geometry Shape** To recognise and name common 2D and 3-D shapes, including:	**Number Place Value (Within 20)** To count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. To count, read and write numbers to 50 in numerals; When given a number, identify one more and one less to 20. To 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 To read and write numbers from 1 to 20 in numerals and words. **Number: Addition & Subtraction [within 20]** Represent and use number bonds and related subtraction facts within 20 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. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 17 = □ – 9 Number **Number: Place Value [within 50]** Count to 50 forwards and backwards, beginning with 0 or 1, or from any number.	**Number: Multiplication and Division** Count in multiples of twos, fives and tens. 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. **Number: 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. Compare, describe and solve practical problems for: lengths and heights (for example, double/half) Compare, describe and solve practical problems for: capacity and volume [for example, half, half full, quarter] **Geometry: Position and Direction** Describe position, direction and movement, including whole, half, quarter and three quarter turns **Number: Place Value** Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals. Given a number, identify one more and one less.

	2-D shapes [e.g., rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	Count, read and write numbers to 50 in numerals. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Count in multiples of twos, fives and tens. **Measurement: Length and Height** Measure and begin to record lengths and heights. Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) **Measurement: Mass and volume** **Weight and volume** Measure and begin to record mass/weight, capacity and volume. Compare, describe and solve practical problems for mass/weight: [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least. **Measurement: Money** Recognise and know the value of different denominations of coins and notes. **Measurement: Time** To sequence events in chronological order using language [fo example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] To recognise and use language relating to dates, including days of the week, weeks, months and years To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Compare, describe and solve practical problems for: time [for example, quicker, slower, earlier, later] To measure and begin to record the following: time (hours, minutes, seconds)
YEAR 2	AUTUMN TERM	SPRING TERM	SUMMER TERM
	Number Place Value count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward	**Measurement: Money**	**Measurement: Time** Tell and write the time to five minutes, including quarter past/to the hour and

	recognise the place value of each digit in a two-digit number (10s, 1s) 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 **Number Addition and Subtraction** 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 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 1s a two-digit number and 10s 2 two-digit numbers adding 3 one-digit numbers show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value find different combinations of coins that equal the same amounts of money solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change **Number: 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 show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 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 **Measurement: Length and Height** 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	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. **Measurement: Mass, capacity and temperature** 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 = **Geometry: Position and Direction** Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] Compare and sort common 2-D and 3-D shapes and everyday objects. **Statistics**

	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems **Geometry: Shape** Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] Compare and sort common 2-D and 3-D shapes and everyday objects.	nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >, < and = **Number: Fractions** Recognise, find, name and write fractions 1/2 , 1/3 , 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and $\frac{1}{2}$	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.
YEAR 3	AUTUMN TERM	SPRING TERM	SUMMER TERM
	Number: Place Value count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number recognise the place value of each digit > in a 3-digit number (100s, 10s, 1s) compare and order numbers up to 1,000 identify, represent and estimate numbers using different representations read and write numbers up to 1,000 in numerals and in words solve number problems and practical problems involving above **Number: Addition and Subtraction**	**Number: Multiplication and 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, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects **Measurement: Length and perimeter**	**Number: Fractions** Compare and order unit fractions, and fractions with the same denominators. Add and subtract fractions with the same denominator within one whole [for example, 5 7 + 1 7 = 6 7] Solve problems that involve all of the above. **Measurement: Money** Add and subtract amounts of money to give change, using both £ and p in practical contexts **Measurement: Time** Tell and write the time from an analogue clock, including using Roman numerals

	add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction add and subtract numbers mentally, including: a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. written methods of add and subtract numbers with up to 3 digits, using formal columnar addition and subtraction **Number: Multiplication and 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, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2D shapes. **Number: 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 and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Solve problems that involve all of the above. Recognise and show, using diagrams, equivalent fractions with small denominators. **Measurement: Mass and capacity** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	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. **Geometry: Properties of shape** 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. 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. **Statistics** Interpret and present data using bar charts, pictograms and tables. Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information

			presented in scaled bar charts and pictograms and tables
YEAR 4	AUTUMN TERM	SPRING TERM	SUMMER TERM
	Number: Place Value count in multiples of 6, 7, 9, 25 and 1,000 find 1,000 more or less than a given number count backwards through 0 to include negative numbers recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s) order and compare numbers beyond 1,000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1,000 solve number and practical problems that involve all of the above and with increasingly large positive numbers read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value **Number: 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. **Measurement: Area** find the area of rectilinear shapes by counting squares	**Number : Multiplication and Division** recognise and use factor pairs and commutativity in mental calculations 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 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. **Measurement: Length and perimeter** measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres **Number: Fractions** recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by a 100 and dividing tenths by 10. 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	**Number: Decimals** 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. Recognise and write decimal equivalents to 1/4 , 1/2 and 3/4 Understand the effect of dividing a one or two digit number by 10 or 100. Identifying the value of the digits in the answer as ones, tenths and hundredths. **Measurement: Money** Estimate, compare and calculate different measures, including money in pounds and pence. Solve simple measure and money problems involving fractions and decimals to two decimal places. **Measurement: Time** 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. **Geometry: Shape**

	Number: 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 3 numbers recall multiplication and division facts for multiplication tables up to 12 × 12	add and subtract fractions with the same denominator **Number: Decimals** Recognise and write decimal equivalents of any number of tenths or hundredths. Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths Solve simple measure and money problems involving fractions and decimals to two decimal places. Convert between different units of measure [for example, kilometre to metre] 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. Recognise and write decimal equivalents to 1/4 , 1/2 and 3/4 Understand the effect of dividing a one or two digit number by 10 or 100. Identifying the value of the digits in the answer as ones, tenths and hundredths.	identify acute and obtuse angles and compare and order angles up to 2 right angles by size 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. **Statistics** Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. **Geometry: Position and direction** Describe positions on a 2-D grid as coordinates in the first quadrant Plot specifies points and draw sides to complete a given polygon Describe movements between positions as translations of given unit to the left/right and up/down
YEAR 5	AUTUMN TERM	SPRING TERM	SUMMER TERM
	Number: Place Value	**Number: Multiplication and Division**	**Geometry: Shape**

	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 round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 solve number problems and practical problems that involve all of the above read Roman numerals to 1,000 (M) and recognise years written in Roman numerals **Number: Addition and Subtraction** add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) add and subtract numbers mentally with increasingly large numbers 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 **Number: Multiplication and Division** identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers know and use the vocabulary of prime numbers, prime factors and composite (non-	Multiply and divide numbers mentally drawing upon known facts. Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2-digit numbers. Divide numbers up to 4 digits by a 1- digit number using the formal written method of short division and interpret remainders appropriately for the context. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign **Number: Fractions B** Compare and order fractions whose denominators are 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 denominators that are multiples of the same number. **Number: Decimals and percentages**	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. 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. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees. Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90° **Geometry: Position and direction** Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language **Number: Decimals** Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places.

	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 multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes **Number: Fractions A** Compare and order fractions whose denominators are 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]	Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places. Recognise the percent 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. 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: Perimeter and area** measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area of irregular shapes **Statistics** solve comparison, sum and difference problems using information presented in a line graph	**Number: Negative numbers** interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 **Measurement: Converting units** Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml] Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time. **Measurement: Volume** Estimate volume [eg using cm3 blocks to build cuboids [including cubes] and capacity eg. water

	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	complete, read and interpret information in tables, including timetables	
YEAR 6	AUTUMN TERM	SPRING TERM	SUMMER TERM
	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 0, solve number and practical problems that involve all of the above. **Number: Four operations** 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 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 identify common factors, common multiples and prime numbers use their knowledge of the order of operations to carry out calculations involving the 4 operations solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	**Number: Ratio** 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 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. **Number: 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 **Number: Decimals** Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. Multiply 1-digit numbers with up to 2 decimal places by whole numbers.	**Geometry: Shape** Draw 2-D shapes using given dimensions and angles. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. **Geometry : Position and directions** describe positions on the full coordinate grid (all 4 quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes **Consolidation and problem solving**

	solve problems involving addition, subtraction, multiplication and division use estimation to check **Number: 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 multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] **Number: 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 multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] **Measurement: Converting units**	Use written division methods in cases where the answer has up to 2 decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy **Number: Fractions, decimals and percentages** Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. **Measurement: Perimeter and area** Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3) **Statistics** Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Interpret and construct pie charts and line graphs and use these to solve problems.	

	describe positions on the full coordinate grid (all 4 quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes	Calculate the mean as an average	