WROUGHTON ACADEMIES
Creative Education Trust

Maths 2023-2024

Curriculum Intent Statement

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.

ELGs related to Subject and Topics

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.

		Topic	Year 1		Topic	Year 2	
			What children will learn:	What children will be able to do:		What children will learn:	What children will be able to do:
Autumn	HT1	**Place Value** (Within 10)	**Place Value** • Count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number • Given a number, identify 1 more and 1 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 • Read and write numbers from 1 to 10 in numerals and words	**Place Value** • Sort objects • Count objects • Count objects from a larger group • Represent objects • Recognise numbers as words • Count on from any number • 1 more • Count backwards within 10 • 1 less • Compare groups by matching • Fewer, more, same • Less than, greater than, equal to • Compare numbers	**Place Value**	**Place Value** • 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 • Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward • Recognise the place value of each digit in a 2-digit number (tens, ones) • Compare and order numbers from 0 up to 100; use and = signs	**Place Value** • Numbers to 20 • Count objects to 100 by making 10s • Recognise tens and ones • Use a place value chart • Partition numbers to 100 • Write numbers to 100 in words • Flexibly partition numbers to 100 • Write numbers to 100 in expanded form • 10s on the number line to 100 • 10s and 1s on the number line to 100 • Estimate numbers on a number line • Compare objects • Compare numbers

		Addition and Subtraction (Within 10)	**Addition and Subtraction** • Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs • Represent and use number bonds and related subtraction facts within 10	• Order objects and numbers • The number line **Addition and Subtraction** • Introduce parts and wholes • Part-whole model • Write number sentences • Fact families – addition facts • Number bonds within 10 • Systematic number bonds within 10 • Number bonds to 10	**Addition and Subtraction**	**Addition and Subtraction** • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a 2-digit number and 1s -a 2-digit number and 10s -two 2-digit numbers -adding three 1-digit numbers • 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 • Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot	• Order objects and numbers • Count in 2s, 5s and 10s • Count in 3s **Addition and Subtraction** • Bonds to 10 • Fact families – addition and subtraction bonds within 20 • Related facts, for example 3 + 5 = 8 so 30 + 50 = 80 • Bonds to 100 (10s) • Add and subtract 1s • Add by making 10 • Add three 1-digit numbers • Add to the next 10 • Add across a 10 • Subtract across a 10 • Subtract from a 10 • Subtract a 1-digit number from a 2-digit number (across a 10) • 10 more, 10 less • Add and subtract 10s

	HT2	**Addition and Subtraction** (Within 10) **Geometry** (Shape) **Measurement** (Length and Height)	What children will learn: **Addition and Subtraction** • Add and subtract one-digit and two-digit numbers to 10, including 0 • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9 **Geometry** • Recognise and name common 2-D and 3-D shapes, including: - 2D shapes [for example, rectangles (including squares), circles and triangles] - 3D shapes [for example, cuboids (including cubes), pyramids and spheres] **Measurement** • Compare, describe and solve practical problems for lengths and heights • Measure and begin to record lengths and heights	What children will be able to do: **Addition and Subtraction** • Addition – add together • Addition – add more • Addition problems • Find a part • Subtraction – find a part • Fact families – the eight facts • Subtraction – take away / cross out (How many left?) • Subtraction – take away (How many left?) • Subtraction on a number line • Add or subtract 1 or 2 **Geometry** • Recognise and name 3D shapes • Sort 3D shapes • Recognise and name 2D shapes • Sort 2D shapes • Patterns with 2D and 3D shapes **Measurement** • Compare lengths and heights • Measure length using objects • Measure length in centimetres	**Geometry** (Shape)	What children will learn: **Addition and Subtraction** • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a 2-digit number and 1s -a 2-digit number and 10s -two 2-digit numbers -adding three 1-digit numbers • Compare and order numbers from 0 up to 100; use and = signs • 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 • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems **Geometry** • 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	What children will be able to do: **Addition and Subtraction** • Add two 2-digit numbers (not across a 10) • Add two 2-digit numbers (across a 10) • Subtract two 2-digit numbers (not across a 10) • Subtract two 2-digit numbers (across a 10) • Mixed addition and subtraction • Compare number sentences • Missing number problems **Geometry** • Recognise 2D and 3D shapes • Count sides on 2D shapes • Count vertices on 2D shapes • Draw 2D shapes • Lines of symmetry on shapes • Use lines of symmetry to complete shapes • Sort 2D shapes

					Measurement (Money)	• Compare and sort common 2-D and 3-D shapes and everyday objects **Measurement** • Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change • Find different combinations of coins that equal the same amounts of money	• Count faces on 3D shapes • Count edges on 3D shapes • Count vertices on 3D shapes • Sort 3D shapes • Make patterns with 2D and 3D shapes **Measurement** • Count money – pence • Count money – pounds (notes and coins) • Count money – pounds and pence • Choose notes and coins • Make the same amount • Compare amounts of money • Calculate with money • Make a pound • Find change • Two-step problems
Spring	HT3	**Place Value** (Within 20)	What children will learn: **Place Value** • Count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers to 20 in numerals; count in multiples of 2s, 5s and 10s • Given a number, identify 1 more and 1 less • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to,	What children will be able to do: **Place Value** • Count within 20 • Understand 10 • Understand 11,12 and 13 • Understand 14, 15 and 16 • Understand 17, 18 and 19 • Understand 20 • 1 more and 1 less • The number line to 20 • Estimate on a number line to 20 • Compare numbers to 20 • Order numbers to 20	**Multiplication and Division**	What children will learn: **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	What children will be able to do: **Multiplication and Division** • Recognise equal groups • Make equal groups • Add equal groups • Introduce the multiplication symbol • Multiplication sentences • Use arrays • Make equal groups – grouping • Make equal groups – sharing • The 2 times-table • Divide by 2 • Doubling and halving • Odd and even numbers • The 10 times-table

		Addition and Subtraction (Within 20)	more than, less than (fewer), most, least • Read and write numbers from 1 to 10 in numerals and words **Addition and Subtraction** • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 20, including 0	**Addition and Subtraction** • Add by counting on within 20 • Add ones using number bonds • Find and make number bonds to 20 • Doubles • Near doubles • Subtract ones using number bonds • Subtraction – counting back	**Measurement** (Length and Height)	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** • 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 = • Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	• Divide by 10 • The 5 times-table • Divide by 5 • The 5 and 10 times-table **Measurement** • Measure in centimetres • Measure in metres • Compare lengths and heights • Order lengths and heights • Four operations with lengths and heights

	HT4	**Addition and Subtraction** (Within 20) **Place Value** (Within 50)	What children will learn: **Addition and Subtraction** • Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 20, including 0 • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9 **Place Value** • Count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers to 50 in numerals; count in multiples of 2s, 5s and 10s • Given a number, identify 1 more and 1 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	What children will be able to do: **Addition and Subtraction** • Subtraction – finding the difference • Related facts • Missing number problems **Place Value** • Count from 20 to 50 • 20, 30, 40 and 50 • Count by making groups of tens • Groups of tens and ones • Partition into tens and ones • The number line to 50 • Estimate on a number line to 50 • 1 more, 1 less	**Fractions** **Measurement** (Mass, Capacity and Temperature)	What children will learn: **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, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 **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 lengths, mass, volume/capacity and record the results using >, < and =	What children will be able to do: **Fractions** • Introduction to parts and whole • Equal and unequal parts • Recognise a half • Find a half • Recognise a quarter • Find a quarter • Recognise a third • Find a third • Find the whole • Unit fractions • Non-unit fractions • Recognise the equivalence of a half and two quarters • Recognise three-quarters • Find three-quarters • Count in fractions up to a whole **Measurement** • Compare mass • Measure ingrams • Measure in kilograms • Four operations with mass • Compare volume and capacity • Measure in millilitres • Measure in litres • Four operations with volume and capacity • Temperature

		Measurement (Mass and Volume)	**Measurement** • Compare, describe and solve practical problems for mass/weight and capacity/volume • Measure and begin to record mass/weight and capacity/volume	**Measurement** • Heavier and lighter • Measure mass • Compare mass • Full and empty • Compare volume • Measure capacity Compare capacity			
Summer	HT5	**Multiplication and Division** **Fractions**	What children will learn: **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 • Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s **Fractions** • Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity • Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	What children will be able to do: **Multiplication and Division** • Count in 2s • Count in 10s • Count in 5s • Recognise equal groups • Add equal groups • Make arrays • Make doubles • Make equal groups – grouping • Make equal groups – sharing **Fractions** • Recognise a half of an object or a shape • Find a half of an object or a shape • Recognise a half of a quantity • Find half of a quantity • Recognise a quarter of an object or shape • Find a quarter of an object or shape • Recognise a quarter of a quantity. • Find a quarter of a quantity.	**Measurement** (Time) **Statistics**	What children will learn: **Measurement** • Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clockface 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 **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 • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables,	What children will be able to do: **Measurement** • O'clock and half past • Quarter past and quarter to • Tell time past the hour • Tell time to the hour • Tell the time to 5 minutes • Minutes in an hour • Hours in a day **Statistics** • Make tally charts • Tables • Block diagrams • Draw pictograms (1-1) • Interpret pictograms (1-1) • Draw pictograms (2, 5 and 10) • Interpret pictograms (2, 5 and 10)

		Geometry (Position and Direction)	**Geometry** • Describe position, direction and movement, including whole, half, quarter and three-quarter turns	**Geometry** • Describe turns • Describe position – left and right • Describe position – forwards and backwards • Describe position – above and below • Ordinal numbers	**Geometry** (Position and Direction)	including recognising odd and even numbers **Geometry** • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise) • Order and arrange combinations of mathematical objects in patterns and sequences	**Geometry** • Language of position • Describe movement • Describe turns • Describe movement and turns • Shape patterns with turns
	HT6	**Place Value** (Within 100)	What children will learn: **Place Value** • Count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s • Given a number, identify 1 more and 1 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	What children will be able to do: **Place Value** • Count from 50 to 100 • Tens to 100 • Partition into tens and ones • The number line to 100 • 1 more, 1 less • Compare numbers with the same number of tens • Compare any two numbers		What children will learn: **Place Value** • 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 • Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward • Recognise the place value of each digit in a 2-digit number (tens, ones) • Compare and order numbers from 0 up to 100; use and = signs	What children will be able to do: **Place Value** • Numbers to 20 • Count objects to 100 by making 10s • Recognise tens and ones • Use a place value chart • Partition numbers to 100 • Write numbers to 100 in words • Flexibly partition numbers to 100 • Write numbers to 100 in expanded form • 10s on the number line to 100 • 10s and 1s on the number line to 100 • Estimate numbers on a number line • Compare objects • Compare numbers

		Measurement (Money) **Measurement** (Time)	**Measurement** • Recognise and know the value of different denominations of coins and notes. **Measurement** • Compare, describe and solve practical problems for time (e.g., quicker, slower, earlier, later) • Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) • Recognise and use language relating to dates, including days of the weeks, 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.	**Measurement** • Unitising • Recognise coins • Recognise notes • Count in coins **Measurement** • Before and after • Days of the week • Months of the year • Hours, minutes and seconds • Tell the time to the hour • Tell the time to the half hour		**Addition and Subtraction** • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a 2-digit number and 1s -a 2-digit number and 10s -two 2-digit numbers -adding three 1-digit numbers • 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 • Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot	• Order objects and numbers • Count in 2s, 5s and 10s • Count in 3s **Addition and Subtraction** • Bonds to 10 • Fact families – addition and subtraction bonds within 20 • Related facts, for example 3 + 5 = 8 so 30 + 50 = 80 • Bonds to 100 (10s) • Add and subtract 1s • Add by making 10 • Add three 1-digit numbers • Add to the next 10 • Add across a 10 • Subtract across a 10 • Subtract from a 10 • Subtract a 1-digit number from a 2-digit number (across a 10) • 10 more, 10 less • Add and subtract 10s

						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	**Multiplication and Division** • Recognise equal groups • Make equal groups • Add equal groups • Introduce the multiplication symbol • Multiplication sentences • Use arrays • Make equal groups – grouping • Make equal groups – sharing • The 2 times-table • Divide by 2 • Doubling and halving • Odd and even numbers • The 10 times-table • Divide by 10 • The 5 times-table • Divide by 5 • The 5 and 10 times-table

		Topic	Year 3		Topic	Year 4	
Autumn	HT1	**Place Value** **Addition and Subtraction**	What children will learn: **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 these ideas **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 • Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction	What children will be able to do: **Place Value** • Represent numbers to 100 • Partition numbers to 100 • Number lines to 100 • Count in hundreds • Represent numbers to 1,000 • Partition numbers to 1,000 • Flexible partitioning of numbers to 1,000 • Recognise hundreds, tens and ones • Find 1, 10 or 100 more or less • Number line to 1,000 • Estimate on a number line to 1,000 • Compare numbers to 1,000 • Order numbers to 1,000 • Count in 50s **Addition and Subtraction** • Apply number bonds within 10 • Add and subtract 1s • Add and subtract 10s • Add and subtract 100s • Spot patterns when adding mentally • Add 1s across a 10 • Add 10s across a 100 • Subtract 1s across a 10 • Subtract 1s across a 100 • Make connections when adding and subtracting	**Place Value** **Addition and Subtraction**	What children will learn: **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 **Addition and Subtraction** • Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate • Solve addition and subtraction two-step	What children will be able to do: **Place Value** • Represent numbers to 1,000 • Partition numbers to 1,000 • Number line to 1,000 • Counting in thousands • Represent numbers to 10,000 • Partition numbers to 10,000 • Flexible partitioning of numbers to 10,000 • Find 1, 10, 100, 1,000 more or less • Number line to 10,000 • Estimate on a number line to 10,000 • Compare numbers to 10,000 • Order numbers to 10,000 • Roman numerals to 100 • Round to the nearest 10 • Round to the nearest 100 • Round to the nearest 1,000 • Round to the nearest 10, 100 or 1,000 **Addition and Subtraction** • Add and subtract 1s, 10s, 100s and 1,000s • Add up to two 4-digit numbers – no exchange • Add two 4-digit numbers – one exchange • Add two 4-digit numbers – more than one exchange

			• 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	• Add two numbers (no exchange) • Subtract two numbers (no exchange)		problems in contexts, deciding which operations and methods to use and why	• Subtract two 4-digit numbers – no exchange • Subtract two 4-digit numbers – one exchange • Subtract two 4-digit numbers – more than one exchange
	HT2	**Addition and Subtraction** • Add and subtract numbers with up to 3 digits, using 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 A**	What children will learn: **Addition and Subtraction** • Add and subtract numbers with up to 3 digits, using 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** • 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	What children will be able to do: **Addition and Subtraction** • Add two numbers (across a 10) • Add two numbers (across a 100) • Subtract two numbers (across a 10) • Subtract two numbers (across a 100) • Add 2-digit and 3-digit numbers • Subtract a 2-digit from a 3-digit number • Complements to 100 • Estimate answers • Inverse operations • Make decisions (solve problems) **Multiplication and Division** • Multiplication – equal groups • Use arrays • Multiples of 2 • Multiples of 5 and 10 • Sharing and grouping • Multiply by 3 • Divide by 3	**Addition and Subtraction** **Measurement** (Area) **Multiplication and Division A**	What children will learn: **Addition and Subtraction** • Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate • Estimate and use inverse operations to check answers to a calculation **Measurement** • Find the area of rectilinear shapes by counting squares **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	What children will be able to do: **Addition and Subtraction** • Efficient subtraction • Estimate answers • Checking strategies **Measurement** • Understand what area is • Count squares • Make rectilinear shapes using a given area • Compare areas **Multiplication and Division** • Multiples of 3 • Multiply and divide by 6 • 6 times-table and division facts • Multiply and divide by 9 • 9 times-table and division facts

			multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods	• The 3 times-table • Multiply by 4 • Divide by 4 • The 4 times-table • Multiply by 8 • Divide by 8 • The 8 times-table • The 2, 4 and 8 times-tables		• 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	• The 3, 6 and 9 times-tables • Multiply and divide by 7 • 7 times-table and division facts • 11 times-table and division facts • 12 times-table and division facts • Multiply by 1 and 0 • Divide a number by 1 and itself • Multiply 3 numbers
Spring	HT3	**Multiplication and Division B** **Measurement** (Length and Perimeter)	What children will learn: **Multiplication and Division** • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-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**	What children will be able to do: **Multiplication and Division** • Multiples of 10 • Related calculations • Reasoning about multiplication • Multiply a 2-digit number by a 1-digit number – no exchange • Multiply a 2-digit number by a 1-digit number – with exchange • Link multiplication and division • Divide a 2-digit number by a 1-digit number – no exchange • Divide a 2-digit number by a 1-digit number – flexible partitioning • Divide a 2-digit number by a 1-digit number – with remainders • Scaling • How many ways? (Correspondence problems) **Measurement**	**Multiplication and Division B**	What children will learn: **Multiplication and Division** • Recognise and use factor pairs and commutativity in mental calculations • Recall multiplication and division facts for multiplication tables up to 12 × 12 • *Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 (Y5)* • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout • Use place value, known and derived facts to multiply and divide mentally, including:	What children will be able to do: **Multiplication and Division** • Recognise factor pairs • Use factor pairs • Multiply by 10 • Multiply by 100 • Divide by 10 • Divide by 100 • Related facts – multiplication and division • Informal written methods for multiplication • Multiply a 2-digit number by a 1-digit number • Multiply a 3-digit number by a 1-digit number • Divide a 2-digit number by a 1-digit number • Divide a 3-digit number by a 1-digit number • Correspondence problems • Efficient multiplication

			• Measure, compare, add and subtract lengths (m/cm/mm) • Measure the perimeter of simple 2D shapes	• Measure in metres and centimetres • Measure in millimetres • Measure in centimetres and millimetres • Metres, centimetres and millimetres • Equivalent lengths (metres and centimetres) • Equivalent lengths (centimetres and millimetres) • Compare lengths • Add lengths • Subtract lengths • Recognise what perimeter is • Measure perimeter • Calculate perimeter	**Measurement** (Length and Perimeter) **Fractions**	multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers **Measurement** • Convert between different units of measure [for example, kilometre to metre; hour to minute] • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres **Fractions** • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	**Measurement** • Measure in kilometres and metres • Equivalent lengths (kilometres and metres) • Perimeter on a grid • Perimeter of a rectangle • Perimeter of rectilinear shapes • Find missing lengths in rectilinear shapes • Perimeter of regular polygons • Perimeter of polygons **Fractions** • Understand the whole • Count beyond 1 • Partition a mixed number • Number lines with mixed numbers • Compare and order mixed numbers
	HT4	**Fractions A**	What children will learn: **Fractions** • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Compare and order unit fractions, and fractions with the same denominators • *Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)*	What children will be able to do: **Fractions** • Understand the denominators of unit fractions • Compare and order unit fractions • Understand the numerators of non-unit fractions • Understand the whole • Compare and order non-unit fractions • Fractions and scales	**Fractions**	What children will learn: **Fractions** • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • Recognise and show, using diagrams, families of common equivalent fractions • Add and subtract fractions with the same denominator	What children will be able to do: **Fractions** • Compare and order mixed numbers • Understand improper fractions • Convert mixed numbers to improper fractions • Convert improper fractions to mixed numbers • Equivalent fractions on a number line • Equivalent fractions families • Add two or more fractions

		Measurement (Money)	• 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 **Measurement** • Add and subtract amounts of money to give change, using both £ and p in practical contexts	• Fractions on a number line • Count in fractions on a number line • Equivalent fractions on a number line • Equivalent fractions as bar models **Measurement** • Pounds and pence • Convert pounds and pence • Add money • Subtract money • Find change	**Geometry** (Properties of Shape)	**Geometry** • Recognise angles as a property of shape or a description of a turn • Identify acute and obtuse angles and compare and order angles up to two 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	• Add fractions and mixed numbers • Subtract two fractions • Subtract from whole amounts • Subtract from mixed numbers **Geometry** • Understand angles as turns • Identify angles • Compare and order angles • Triangles • Quadrilaterals • Polygons • Lines of symmetry • Complete and symmetric figure
Summer	HT5	**Fractions B**	What children will learn: **Fractions** • Add and subtract fractions with the same denominator within one whole • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	What children will be able to do: **Fractions** • Add fractions • Subtract fractions • Partition the whole • Unit fractions of a set of objects • Non-unit fractions of a set of objects • Reasoning with fractions of amounts	**Decimals A**	What children will learn: **Decimals** • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 • Recognise and write decimal equivalents of any number of tenths or hundredths • Compare numbers with the same number of	What children will be able to do: **Decimals** • Tenths as fractions • Tenths as decimals • Tenths on a place value chart • Tenths on a number line • Divide a 1-digit number by 10 • Divide a 2-digit number by 10 • Hundredths as fractions • Hundredths as decimals • Hundredths on a place value chart

		Geometry (Properties of Shape) **Statistics**	**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 • *Measure the perimeter of simple 2-D shapes* • Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • *Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)* • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines **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	**Geometry** • Turns and angles • Right angles • Compare angles • Measure and draw accurately • Horizontal and vertical lines • Parallel and perpendicular lines • Recognise and describe 2D shapes • Draw polygons • Recognise and describe 3D shapes • Make 3D shapes **Statistics** • Interpret pictograms • Draw pictograms • Interpret bar charts • Draw bar charts • Collect and represent data • Two-way tables	**Decimals B** **Statistics**	decimal places up to 2 decimal places • Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 • *Recognise and show, using diagrams, families of common equivalent fractions* **Decimals** • Recognise and write decimal equivalents of any number of tenths or hundredths • Solve simple measure and money problems involving fractions and decimals to 2 decimal places • Compare numbers with the same number of decimal places up to 2 decimal places • Round decimals with 1 decimal place to the nearest whole number • Recognise and write decimal equivalents to 1/4, 1/2 and 3/4 **Statistics** • Interpret and present discrete and continuous data using appropriate graphical methods,	• Divide a 1- or 2-digit number by 100 **Decimals** • Make a whole with tenths • Make a whole with hundredths • Partition decimals • Flexibly partition decimals • Compare decimals • Order decimals • Round to the nearest whole number • Halves and quarters as decimals **Statistics** • Interpret charts • Comparison, sum and difference • Interpret line graphs • Draw line graphs

						including bar charts and time graphs • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	
	HT6	**Measurement** (Time) **Measurement** (Mass and Capacity)	What children will learn: **Measurement** • 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, am/pm, 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 **Measurement** • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	What children will be able to do: **Measurement** • Roman numerals to 12 • Tell the time to 5 minutes • Tell the time to the minute • Read time on a digital clock • Use a.m. and p.m. • Years, months and days • Days and hours • Hours and minutes – use start and end times • Hours and minutes – use durations • Minutes and seconds • Units of time • Solve problems with time **Measurement** • Use scales • Measure mass in grams • Equivalent masses (kilograms and grams) • Compare mass • Add and subtract mass	**Measurement** (Money) **Measurement** (Time) **Geometry** (Position and Direction)	What children will learn: **Measurement** • Estimate, compare and calculate different measures, including money in pounds and pence **Measurement** • Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days • Read, write and convert time between analogue and digital 12- and 24-hour clocks **Geometry** • Describe positions on a 2-D grid as coordinates in the first quadrant • Plot specified points and draw sides to complete a given polygon	What children will be able to do: **Measurement** • Write money using decimals • Convert between pounds and pence • Compare amounts of money • Estimate with money • Calculate with money • Solve problems with money **Measurement** • Years, months, weeks and days • Hours, minutes and seconds • Convert between analogue and digital times • Convert to the 24-hour clock • Convert from the 24-hour clock **Geometry** • Describe position using coordinates • Plot coordinates • Draw 2D shapes on a grid • Translate on a grid

				• Measure capacity and volume in millimetres • Measure capacity and volumes in litres and millilitres • Equivalent capacities and volumes (litres and millilitres) • Compare capacity and volume • Add and subtract capacity and volume		• Describe movements between positions as translations of a given unit to the left/right and up/down	• Describe translation on a grid

		Topic	**Year 5**		**Topic**	**Year 6**	
Autumn	HT1	**Place Value** **Addition and Subtraction**	What children will learn: **Place Value** • Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals • 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 involving the above **Addition and Subtraction** • Add and subtract whole numbers with more than 4 digits, including using	What children will be able to do: **Place Value** • Roman numerals to 1,000 • Numbers to 10,000 • Numbers to 100,000 • Numbers to 1,000,000 • Read and write numbers to 1,000,000 • Powers of 10 • 10/100/1,000/10,000/ 100,000 more or less • Partition numbers to 1,000,000 • Number line to 1,000,000 • Compare and order numbers to 100,000 • Compare and order numbers to 1,000,000 • Round to the nearest 10, 100 or 1,000 • Round within 100,000 • Round within 1,000,000 **Addition and Subtraction** • Mental strategies • Add whole numbers with more than four digits	**Place Value** **Addition, Subtraction, Multiplication and Division**	What children will learn: **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 the above **Addition, Subtraction, Multiplication and Division** • Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication • Divide numbers up to four digits by a 2-digit number using the formal written	What children will be able to do: **Place Value** • Numbers to 1 million • Numbers to 10 million • Read and write numbers to 10 million • Powers of 10 • Number line to 10 million • Compare and order any integers • Round any integer • Negative numbers **Addition, Subtraction, Multiplication and Division** • Add and subtract integers • Common factors • Common multiples • Rules of divisibility • Primes to 100 • Square and cube numbers

		Multiplication and Division A	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 **Multiplication and Division** • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	• Subtract whole numbers with more than four digits • Round to check answers • Inverse operations (addition and subtraction) • Multi-step addition and subtraction problems • Compare calculations • Find missing numbers **Multiplication and Division** • Multiples • Common multiples • Factors • Common Factors		method of short division where appropriate, interpreting remainders according to the context • Divide numbers up to four digits by a 2-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 • 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 addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Solve problems involving addition, subtraction, multiplication and division • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	• Multiply up to a 4-digit number by a 2-digit number • Solve problems with multiplication • Short division • Division using factors • Introduction to long division • Long division with remainders • Solve problems with division • Solve multi-step problems • Order of operations • Mental calculations and estimation • Reason from known facts

	HT2	**Multiplication and Division A** **Fractions A**	What children will learn: **Multiplication and Division** • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • Establish whether a number up to 100 is prime and recall prime numbers up to 19 • Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 • Multiply and divide numbers mentally, drawing upon known facts • Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes **Fractions** • 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	What children will be able to do: **Multiplication and Division** • Prime numbers • Square numbers • Cube numbers • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiples of 10, 100 and 1,000 **Fractions** • Find fractions equivalent to a unit fraction • Find fractions equivalent to a non-unit fraction • Recognise equivalent fractions • Convert improper fractions to mixed numbers	**Fractions A** **Fractions B**	What children will learn: **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 • Identify common factors, common multiples and prime numbers • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Solve problems involving addition, subtraction, multiplication and division **Fractions** • Multiply simple pairs of proper fractions, writing the answer in its simplest form • Divide proper fractions by whole numbers • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	What children will be able to do: **Fractions** • Equivalent fractions and simplifying • Equivalent fractions on a number line • Compare and order (denominator) • Compare and order (numerator) • Add and subtract simple fractions • Add and subtract any two fractions • Add mixed numbers • Subtract mixed numbers • Multi-step problems **Fractions** • Multiply fractions by integers • Multiply fractions by fractions • Divide a fraction by an integer • Divide any fraction by an integer • Mixed questions with fractions • Fraction of an amount

			other and write mathematical statements > 1 as a mixed number • Compare and order fractions whose denominators are all multiples of the same number • Add and subtract fractions with the same denominator, and denominators that are multiples of the same number	• Convert mixed numbers to improper fractions • Compare fractions less than 1 • Order fractions less than 1 • Compare and order fractions greater than 1 • Add and subtract fractions with the same denominator • Add fractions within 1 • Add fractions with total greater than 1 • Add to a mixed number • Add two mixed numbers • Subtract fractions • Subtract from a mixed number • Subtract from a mixed number – breaking the whole • Subtract two mixed numbers	**Decimals**	• Multiply simple pairs of proper fractions, writing the answer in its simplest form • Divide proper fractions by whole numbers • Solve problems involving addition, subtraction, multiplication and division • Associate a fraction with division and calculate decimal fraction equivalents **Decimals** • Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places • Solve problems which require answers to be rounded to specified degrees of accuracy • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Multiply 1-digit numbers with up to 2 decimal places by whole numbers • Use written division methods in cases where the answer has up to 2 decimal places • Solve problems involving addition, subtraction, multiplication and division	• Fraction of an amount – find the whole **Decimals** • Place value within 1 • Place value - integers and decimals • Round decimals • Add and subtract decimals • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply decimals by integers • Divide decimals by integers • Multiply and divide decimals in context

					Measurement (Converting Units)	**Measurement** • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate • Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places	**Measurement** • Metric measures • Convert metric measures • Calculate with metric measures • Miles and kilometres • Imperial measures
Spring	HT3	**Multiplication and Division B**	What children will learn: **Multiplication and Division** • Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers • Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context • Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	What children will be able to do: **Multiplication and Division** • Multiply up to a 4-digit number by a 1-digit number • Multiply a 2-digit number by a 2-digit number (area model) • Multiply a 2-digit number by a 2-digit number • Multiply a 3-digit number by a 2-digit number • Multiply a 4-digit number by a 2-digit number • Solve problems with multiplication • Short division • Divide a 4-digit number by a 1-digit number • Divide with remainders • Efficient division	**Fractions, Decimals and Percentages**	What children will learn: **Fractions, Decimals and Percentages** • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • 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 • Compare and order fractions, including fractions >1 • Solve problems involving the calculation of	What children will be able to do: **Fractions, Decimals and Percentages** • Decimal and fraction equivalents • Fractions as division • Understand percentages • Fractions to percentages • Equivalent fractions, decimals and percentages • Order fractions, decimals and percentages • Percentage of an amount - one step • Percentage of an amount – multi-step • Percentages – missing values

		Fractions B **Decimals and Percentages**	**Fractions** • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number **Decimals and Percentages** • Read, write, order and compare numbers with up to 3 decimal places • Read and write decimal numbers as fractions • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • 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 • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	• Solve problems with multiplication and division **Fractions** • Multiply a fraction by an integer • Multiply a non-unit fraction by an integer • Multiply a mixed number by an integer • Calculate a fraction of a quantity • Fraction of an amount • Find the whole • Use fractions as operators **Decimals and Percentages** • Decimals up to 2dp • Equivalent fractions and decimals (tenths) • Equivalent fractions and decimals (hundredths) • Equivalent fractions and decimals • Thousandths as fractions	**Measurement** (Perimeter, Area and Volume) **Statistics**	percentages and the use of percentages for comparison **Measurement** • Recognise that shapes with the same areas can have different perimeters and vice versa • Recognise when it is possible to use formulae for area and volume of shapes • Calculate the area of parallelograms and triangles • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units **Statistics** • Interpret and construct pie charts and line graphs and use these to solve problems • Calculate and interpret the mean as an average	**Measurement** • Shapes – same area • Area and perimeter • Area of a triangle – counting squares • Area of a right-angled triangle • Area of any triangle • Area of a parallelogram • Volume – counting cubes • Volume of a cuboid **Statistics** • Line graphs • Dual bar graphs • Read and interpret pie charts • Pie charts with percentages • Draw pie charts • The mean

	HT4	**Decimals and Percentages** **Measurement** (Perimeter and Area)	What children will learn: **Decimals and Percentages** • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • Read, write, order and compare numbers with up to 3 decimal places • Solve problems involving numbers up to 3 decimal places • Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place • Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction • 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** • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • Calculate and compare the area of rectangles	What children will be able to do: **Decimals and Percentages** • Thousandths as decimals • Thousandths on a place value chart • Order and compare decimals (same number of decimal places) • Order and compare any decimals with up to 3dp • Round to the nearest whole number • Round to 1dp • Understand percentages • Percentages as fractions • Percentages as decimals • Equivalent FDP **Measurement** • Perimeter of rectangles • Perimeter of rectilinear shapes • Perimeter of polygons • Area of rectangles • Area of compound shapes • Estimate area	**Ratio** **Algebra** **Geometry** (Position and Direction)	What children will learn: **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 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 **Algebra** • Use simple formulae • Generate and describe linear number sequences • Express missing number problems algebraically • Find pairs of numbers that satisfy an equation with 2 unknowns • Enumerate possibilities of combinations of 2 variables **Geometry** • 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	What children will be able to do: **Ratio** • Add or multiply? • Use ratio language • Introduction to the ratio symbol • Ratio and fractions • Scale drawing • Use scale factors • Similar shapes • Ratio problems • Proportion problems • Recipes **Algebra** • 1-step function machines • 2-step function machines • Form expressions • Substitution • Formulae • Form equations • Solve 1-step equations • Solve 2-step equations • Find pairs of values • Solve problems with two unknowns **Geometry** • The first quadrant • Read and plot points in four quadrants • Solve problems with coordinates • Translations • Reflections

		Statistics	(including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes **Statistics** • Solve comparison, sum and difference problems using information presented in a line graph • Complete, read and interpret information in tables, including timetables	**Statistics** • Draw line graphs • Read and interpret line graphs • Read and interpret tables			
Summer	HT5	**Statistics** **Geometry** (Properties of Shape)	What children will learn: **Statistics** • Complete, read and interpret information in tables, including timetables **Geometry** • 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 1 whole turn (total 360°) ; angles at a point on a straight line and half a turn (total 180°) • Use the properties of rectangles to deduce related facts and find missing lengths and angles	What children will be able to do: **Statistics** • Read and interpret tables • Two-way tables • Read and interpret timetables **Geometry** • Understand and use degrees • Classify angles • Estimate angles • Measure angles up to 180° • Draw lines and angles accurately • Calculate angles around a point • Calculate angles on a straight line • Lengths and angles in shapes • Regular and irregular polygons • 3D shapes	**Geometry** (Properties of Shape)	What children will learn: **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 on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • Draw 2-D shapes using given dimensions and angles	What children will be able to do: **Geometry** • Measure and classify angles • Calculate angles • Vertically opposite angles • Angles in a triangle • Angles in a triangle – special cases • Angles in a triangle – missing angles • Angles in quadrilaterals • Angles in polygons • Circles • Draw shapes accurately • Nets of 3D shapes

		Geometry (Position and Direction)	• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations **Geometry** • 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** • Read and plot coordinates • Problem solving with coordinates • Translation • Translation with coordinates • Lines of symmetry • Reflection in horizontal and vertical lines		• Recognise, describe and build simple 3-D shapes, including making nets	
	HT6	**Decimals**	What children will learn: **Decimals** • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • Solve problems involving number up to 3 decimal places • Read, write, order and compare numbers with up to 3 decimal places • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	What children will be able to do: **Decimals** • Use known facts to add and subtract decimals within 1 • Complements to 1 • Add and subtract decimals across 1 • Add decimals with the same number of decimal places • Subtract decimals with the same number of decimal places • Add decimals with different numbers of decimal places • Subtract decimals with different numbers of decimal places		What children will learn: **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 the above **Addition, Subtraction, Multiplication and Division** • Multiply multi-digit numbers up to four digits by a 2-digit whole number	What children will be able to do: **Place Value** • Numbers to 1 million • Numbers to 10 million • Read and write numbers to 10 million • Powers of 10 • Number line to 10 million • Compare and order any integers • Round any integer • Negative numbers **Addition, Subtraction, Multiplication and Division** • Add and subtract integers • Common factors • Common multiples

		Negative Numbers **Measurement** (Converting Units)	**Negative Numbers** • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero **Measurement** • Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre] • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • Solve problems involving converting between units of time	• Efficient strategies for adding and subtracting decimals • Decimal sequences • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply and divide decimals – missing values **Negative Numbers** • Understand negative numbers • Count through zero in 1s • Count through zero in multiples • Compare and order negative numbers • Find the difference **Measurement** • Kilograms and kilometres • Millimetres and millilitres • Convert units of length • Convert between metric and imperial units • Convert units of time • Calculate with timetables		using the formal written method of long multiplication • Divide numbers up to four digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • Divide numbers up to four digits by a 2-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 • 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 addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Solve problems involving addition, subtraction, multiplication and division Use estimation to check answers to calculations and	• Rules of divisibility • Primes to 100 • Square and cube numbers • Multiply up to a 4-digit number by a 2-digit number • Solve problems with multiplication • Short division • Division using factors • Introduction to long division • Long division with remainders • Solve problems with division • Solve multi-step problems • Order of operations • Mental calculations and estimation Reason from known facts

		Measurement (Volume)	**Measurement** • Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity • Estimate volume and capacity [for example, using water]	**Measurement** • Cubic centimetres • Compare volume • Estimate volume • Estimate capacity		determine, in the context of a problem, an appropriate degree of accuracy **Fractions, Decimals and Percentages** • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • 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 • Compare and order fractions, including fractions >1 • Solve problems involving the calculation of percentages and the use of percentages for comparison	**Fractions, Decimals and Percentages** • Decimal and fraction equivalents • Fractions as division • Understand percentages • Fractions to percentages • Equivalent fractions, decimals and percentages • Order fractions, decimals and percentages • Percentage of an amount - one step • Percentage of an amount – multi-step • Percentages – missing values