Brede Primary School

MATHEMATICS CURRICULUM

Mathematics

Intent Statement:

At Brede Primary School our Maths curriculum promotes challenge and enjoyment; the progression of skills, knowledge and understanding; commitment to learning and positive learning behaviours. Maths is structured to ensure engagement, development of knowledge, innovation and expression in learning. In our implementation of Maths at Brede, we all have a central belief that everyone can 'do' Maths!

We use Power Maths, which is a whole-class mastery programme **created in partnership with White Rose Maths** and recommended by the DfE*. It provides consistency in maths teaching across the school, and is designed to spark curiosity and excitement and help nurture confidence in maths. For EYFS to Year 6.

This document outlines how we structure the teaching of mathematics across all year groups, illustrating how mathematical concepts and skills will be built upon and mastered across all year groups.

Early Years Foundation Stage Statutory Framework and National Curriculum Aims:

Early years Foundation Stage Statutory Framework: mathematics.

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

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 nonroutine 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.

Age Related Statutory Coverage:

EYFS	**Key Stage One and Two**
Early Learning Goals : Number Children at the expected level of development will: • Have a deep understanding of numbers 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.	Click here for: Mathematics programmes of study: key stage 1 and 2

Mathematics Yearly Overview
EYFS

Autumn term

Strand	Unit		Week	Week title	Early Learning Goal
Number – number and place value	Unit 1	Numbers to 5	1	Counting to 1, 2 and 3	Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Recognise the pattern of the counting system.
			2	Counting to 4	
			3	Counting to 5	
Number – number and place value	Unit 2	Comparing groups within 5	4	Comparing quantities of identical objects	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Subitise (recognise quantities without counting) up to 5.
			5	Comparing quantities of non-identical objects	
Geometry – properties of shape	Unit 3	Shape	6	3D shapes	*There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning.*
			7	2D shapes	
Number – addition and subtraction	Unit 4	Change within 5	8	One more	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
			9	One less	
Number – addition and subtraction	Unit 5	Number bonds within 5	10	Introducing the part-whole model	Have a deep understanding of number to 10, including the composition of each number. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 and some number bonds to 10, including double facts.
Geometry – properties of shape	Unit 6	Space	11	Spatial awareness	*There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning skills.*

Spring term

Strand	Unit		Week	Week title	Early Learning Goal
Number – number and place value	Unit 7	Numbers to 10	1	Counting to 6, 7 and 8	Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Verbally count, (recognising the pattern of the counting system).
			2	Counting to 9 and 10	
Number – number and place value	Unit 8	Comparing numbers within 10	3	Comparing groups up to 10	Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Compare quantities up to 10 in different contexts, (recognising when one quantity is greater than, less than or the same as the other quantity).
Number – addition and subtraction	Unit 9	Addition to 10	4	Combining 2 groups to find the whole	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. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.

Spring term continued

Strand	Unit		Week	Week title	Early Learning Goal
Number – number and place value	Unit 10	Measure	5	Length, height and distance	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
			6	Weight	
Number – addition and subtraction	Unit 11	Number bonds to 10	7	Using a ten frame	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.
			8	The part-whole model to 10	
Number – addition and subtraction	Unit 12	Subtraction	9	Subtraction	Have a deep understanding of number to 10, including the composition of each number.
Geometry – properties of shape	Unit 13	Exploring patterns	10	Making simple patterns	*There is no specific ELG related to this unit. This unit supports the Development Matters statement Continue, copy and create repeating patterns.*
			11	Exploring more complex patterns	

Summer term

Strand	Unit		Week	Week title	Early Learning Goal
Number – addition and subtraction	Unit 14	Counting on and counting back	1	Adding by counting on	Have a deep understanding of number to 10, including the composition of each number.
			2	Taking away by counting back	
Number – number and place value	Unit 15	Numbers to 20	3	Counting to and from 20	Verbally count beyond 20, recognising the pattern of the counting system.
Number – multiplication and division	Unit 16	Numerical patterns	4	Doubling	Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
			5	Halving and sharing	
			6	Odds and evens	
Geometry – properties of shape	Unit 17	Shape	7	Composing and decomposing shapes	*There is no specific ELG related to this unit. This unit supports the Development Matters statement Select, rotate and manipulate shapes in order to develop spatial reasoning.*
Number – number and place value	Unit 18	Measure	8	Volume and capacity	Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
Number – addition and subtraction	Unit 19 (Optional)	Sorting	9	Sorting into 2 groups	*This unit is optional because sorting is not covered in the EYFS Framework or Development Matters guidance for Reception. It does provide an introduction to the concept of sorting, which will be useful in Year 1.*
Measurement	Unit 20 (Optional)	Time	10	My day	*This unit is optional because time is not covered in the EYFS Framework or Development Matters guidance for Reception. It does provide a useful introduction to time, which will be covered in Year 1.*

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Year 1	Year 2	Number of lessons
Autumn term		**52**
Unit 1: Numbers to 10 • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Given a number, identify one more and one less.	**Unit 1: Numbers to 100** • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number [Year 1]. • Read and write numbers from 1 to 20 in numerals and words [Year 1]. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens [Year 1]. • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. • Recognise the place value of each digit in a two-digit number (tens, ones). • Identify, represent and estimate numbers using different representations, including the number line. • Compare and order numbers from 0 up to 100; use <, > and = signs. • Read and write numbers to at least 100 in nu and in words.	**15**

Year 1	Year 2	Number of lessons
Unit 2: Part-whole within 10 • 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. • Represent and use number bonds and related subtraction facts within 20. • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.	**Unit 2: Addition and subtraction (1)** • 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 ones - two two-digit numbers - adding three one-digit numbers.	**25**
Unit 3: Addition within 10 • Represent and use number bonds and related subtraction facts within 20. • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9.	**Unit 3: Addition and subtraction (2)** • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. • 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.	

Year 1	Year 2	Number of lessons
Unit 4: Subtraction within 10 • Represent and use number bonds and related subtraction facts within 20. • 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 7 = □ – 9.	• Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and tens - two two-digit numbers.	
Unit 5: 2D and 3D shapes • Recognise and name common 2D and 3D shapes, including: - 2D shapes [for example, rectangles (including squares), circles and triangles] - 3D shapes [for example, cuboids (including cubes), pyramids and spheres].	**Unit 4: Properties of shapes** • Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. • Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. • Identify 2D shapes on the surface of 3D shapes [for example, a circle on a cylinder and a triangle on a pyramid]. • Compare and sort common 2D and 3D shapes and everyday objects. • Order and arrange combinations of mathematical objects in patterns and sequences.	**12**

Year 1	Year 2	Number of lessons
Spring term		**36**
Unit 6: Numbers to 20 • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Given a number, identify one more and 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. • Read and write numbers from 1 to 20 in numerals and words. • Recognise the place value of each digit in a two-digit number (tens, ones) [Year 2].	**Unit 1: Numbers to 100** • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number [Year 1]. • Read and write numbers from 1 to 20 in numerals and words [Year 1]. • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens [Year 1]. • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. • Recognise the place value of each digit in a two-digit number (tens, ones). • Identify, represent and estimate numbers using different representations, including the number line. • Compare and order numbers from 0 up to 100; use <, > and = signs. • Read and write numbers to at least 100 in numerals and in words.	**23**
Unit 7: Addition and subtraction within 20 • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero.	**Unit 6: Multiplication and division (1)** • 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 [Year 1]. • Calculate mathematical statements for multiplication and division within the multiplication tables and write	

Year 1	Year 2	Number of lessons
• Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9.	them using the multiplication (×), division (÷) and equals (=) signs. • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	
	Unit 7: Multiplication and division (2) • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	
Unit 9: Introducing length and height • Compare, describe and solve practical problems for: - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]. • Measure and begin to record the following: - lengths and heights.	**Unit 8: 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 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.	**5**

Year 1	Year 2	Number of lessons
Unit 10: Introducing mass and capacity • 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]. • Measure and begin to record the following: - mass/weight - capacity and volume.	**Unit 9: 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 =.	**8**

Year 1	Year 2	Number of lessons
Summer term		**48**
Unit 11: Multiplication and division • Count, read and write numbers to 100 in numerals; 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.	**Unit 14: 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.	**9**
Unit 12: 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.	**Unit 10: Fractions** • Recognise, find and name a half as one of two equal parts of an object, shape or quantity [Year 1]. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity [Year 1]. • Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. • Write simple fractions [for example, $\frac{1}{2}$ of 6 = 3] and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	**12**
Unit 8: Numbers to 50 • 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; count in multiples of twos, fives and tens. • Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations including the number line, and		

Year 1	Year 2	Number of lessons
use the language of: equal to, more than, less than (fewer), most, least. • Recognise the place value of each digit in a two-digit number (tens, ones) [Year 2].		
Unit 16: Time • 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 week, weeks, months and years. • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	**Unit 11: Time** • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times [Year 1]. • Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. • Know the number of minutes in an hour and the number of hours in a day.	**5**
Unit 13: Position and direction • Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	**Unit 13: Position and direction** • 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 anti-clockwise). • Order and arrange combinations of mathematical objects in patterns and sequences.	**5**

Year 1	Year 2	Number of lessons
Unit 15: Money • Recognise and know the value of different denominations of coins and notes.	**Unit 5: Money** • Recognise and know the value of different denominations of coins and notes [Year 1]. • 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 cange.	**10**
Unit 14: Numbers to 100 • Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens. • Given a number, identify one more and 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. • Recognise the place value of each digit in a two-digit number (tens, ones) [Year 2].		
Consolidation	**Unit 12: Problem solving and efficient methods** • Use place value and number facts to solve problems. • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. • Solve problems with addition and subtraction: - using concrete objects and pictorial representations, including those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods.	**7**

Year 3	Year 4	Number of lessons
Autumn term		**58**
Unit 1: Place value within 1,000 • Recognise the place value of each digit in a two-digit number (tens, ones) [Year 2]. • 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 three-digit number (hundreds, tens, ones). • Compare and order numbers up to 1,000. • Identify, represent and estimate numbers using different representations.	**Unit 1: Place value – 4-digit numbers (1)** • Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number [Year 3]. • Count in multiples of 6, 7, 9, 25 and 1,000. • Find 1,000 more or less than a given number. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). • Identify, represent and estimate numbers using different representations.	**17**
	Unit 2: Place value – 4-digit numbers (2) • Count in multiples of 6, 7, 9, 25 and 1000. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). • 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. • 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.	

Year 3	Year 4	Number of lessons
Unit 2: Addition and subtraction (1) • Recognise the place value of each digit in a two-digit number (tens, ones) [Year 2]. • Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds. • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	**Unit 3: Addition and subtraction** • Solve number and practical problems that involve all of the above and with increasingly large positive numbers. • 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.	**23**
Unit 3: Addition and subtraction (2) • Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds. • Add and subtract numbers with up to three digits, using formal written methods 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.		

Year 3	Year 4	Number of lessons
Unit 4: Multiplication and division (1) • 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.	**Unit 5: Multiplication and division (1)** • Recall multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including: - multiplying by 0 and 1 - dividing by 1 - multiplying together three numbers.	**18**
Unit 5: Multiplication and division (2) • 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.		

Year 3	Year 4	Number of lessons
Spring term		**62**
Unit 6: Multiplication and division (3) • 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.	**Unit 6: Multiplication and division (2)** • Recall multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including: - multiplying by 0 and 1 - dividing by 1 - multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	**18**
Unit 7: Length and perimeter • Measure, compare, add and subtract: lengths (m/cm/mm). • Measure the perimeter of simple 2D shapes.	**Unit 4: Measure – area** • Find the area of rectilinear shapes by counting squares. • Estimate, compare and calculate different measures, including money in pounds and pence.	**12**

Year 3	Year 4	Number of lessons
	Unit 7: Length and perimeter • 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.	
Unit 8: Fractions (1) • 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. • Compare and order unit fractions, and fractions with the same denominators.	**Unit 8: Fractions (1)** • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators [Year 3]. • Recognise and show, using diagrams, equivalent fractions with small denominators [Year 3]. • Compare and order unit fractions, and fractions with the same denominators [Year 3]. • Recognise and show, using diagrams, families of common equivalent fractions.	**18**
Unit 11: Fractions (2) • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]. • Solve problems that involve all of the above.	**Unit 9: Fractions (2)** • Add and subtract fractions with the same denominator. • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	

Year 3	Year 4	Number of lessons
Unit 9: Mass • Measure, compare, add and subtract: mass (kg/g).	**Unit 10: Decimals (1)** • 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 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	**14**
Unit 10: Capacity • Measure, compare, add and subtract: volume/capacity (l/ml).		

Year 3	Year 4	Number of lessons
Summer term		**41**
Unit 13: Time • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events [for example to calculate the time taken by particular events or tasks].	**Unit 11: Decimals (2)** • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$. • Round decimals with one decimal place to the nearest whole number. • Compare numbers with the same number of decimal places up to two decimal places. **Unit 13: Time** • Convert between different units of measure [for example, kilometre to metre; hour to minute]. • 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.	**13**

Year 3	Year 4	Number of lessons
Unit 14: Angles and properties of shapes • Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them. • 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.	**Unit 14: Angles and 2D shapes** • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry.	**9**
Unit 12: Money • Add and subtract amounts of money to give change, using both £ and p in practical contexts.	**Unit 12: Money** • Estimate, compare and calculate different measures, including money in pounds and pence.	**6**
Unit 15: 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.	**Unit 15: 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.	**7**

Year 3	Year 4	Number of lessons
Consolidation	**Unit 16: Geometry – position and direction** • Describe positions on a 2D grid as coordinates in the first quadrant. • Describe movements between positions as translations of a given unit to the left/right and up/down. • Plot specified points and draw sides to complete a given polygon.	**6**

Year 5	Year 6	Number of lessons
Autumn term		**74**
Unit 1: Place value within 1,000,000 (1) • 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. • Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.	**Unit 1: Place value within 10,000,000** • Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve all of the above.	**14**
Unit 2: Place value within 1,000,000 (2) • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. • Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.		
Unit 3: Addition and subtraction • Estimate and use inverse operations to check answers to a calculation [Year 4]. • 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.	**Unit 2: Four operations (1)** [Part 1] • Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) [Year 5]. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations.	**12**

Year 5	Year 6	Number of lessons
• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. **Unit 7: Ratio and proportion** • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving 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.	
Unit 4: Multiplication and division (1) • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Multiply 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}).	**Unit 2: Four operations (1)** [Part 2] • Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) [Year 5]. • 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.	**20**

Year 5	Year 6	Number of lessons
Unit 7: Multiplication and division (2) • 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.	**Unit 3: Four operations (2)** • 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 four operations. • Solve problems involving addition, subtraction, multiplication and division.	
Unit 5: Fractions (1) • Compare and order fractions whose denominators are all multiples of the same number.	**Unit 4: Fractions (1)** • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions > 1.	**28**

Year 5	Year 6	Number of lessons
• 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$].	• Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	
Unit 6: Fractions (2) • 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]. • Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	**Unit 5: Fractions (2)** • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. • 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]. • Use written division methods in cases where the answer has up to two decimal places.	
Unit 8: Fractions (3) • 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]. • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.		

Year 5	Year 6	Number of lessons
Spring term		**31**
Unit 9: Decimals and percentages • Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$]. • 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. • Read, write, order and compare numbers with up to three decimal places. • Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	**Unit 9: Decimals** • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]. • Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places. • Multiply one-digit numbers with up to two decimal places by whole numbers. • Use written division methods in cases where the answer has up to two decimal places. • Solve problems which require answers to be rounded to specified degrees of accuracy.	**31**

Year 5	Year 6	Number of lessons
Unit 14: Decimals • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Read, write, order and compare numbers with up to three decimal places. • Solve problems involving number up to three decimal places.	**Unit 10: Percentages** • Compare and order fractions, including fractions > 1. • Multiply one-digit numbers with up to two decimal places by whole numbers. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison. **Unit 8: 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.	

Year 5	Year 6	Number of lessons
Summer term		**62**
Unit 12: Geometry – properties of shapes • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • Identify 3D shapes, including cubes and other cuboids, from 2D representations. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees (°). • Identify: - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) - other multiples of 90°. • 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.	**Unit 13: Geometry – properties of shapes** • Draw 2D shapes using given dimensions and angles. • Recognise, describe and build simple 3D shapes, including making nets. • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	**13**
Unit 10: Measure – 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), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.	**Unit 11: Measure – perimeter, area and volume** • 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.	**12**

Year 5	Year 6	Number of lessons
Unit 17: Measure – volume • Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water].	• Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	
Unit 16: Measure – converting units • 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. • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	**Unit 6: Measure – imperial and metric measures** • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three 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 three decimal places. • Convert between miles and kilometres.	**17**
Unit 11: Graphs and tables • Solve comparison, sum and difference problems using information presented in a line graph. • Complete, read and interpret information in tables, including timetables.	**Unit 12: Statistics** • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	

Year 5	Year 6	Number of lessons
	• 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.	
Unit 13: Geometry – position and direction • Describe positions on a 2D grid as coordinates in the first quadrant [Year 4]. • Plot specified points and draw sides to complete a given polygon [Year 4]. • 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.	**Unit 14: Geometry – position and direction** • 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.	**6**
Unit 15: Negative numbers • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	**Unit 15: Problem solving** • Solve number and practical problems that involve all of the above. • 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.	**14**

Year 5	Year 6	Number of lessons
	• Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • 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. • Use read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places. • 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. • Describe positions on the full coordinate grid (all four quadrants).	