



## Year 5

### Autumn 1

Topic	Curriculum Objective
Place value to 1,000,000	<ul style="list-style-type: none"><li>• To read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit.</li><li>• To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</li></ul>
Mental addition and subtraction	<ul style="list-style-type: none"><li>• To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li><li>• To add and subtract numbers mentally with increasingly large numbers.</li><li>• To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li></ul>
Factors of numbers and prime numbers	<ul style="list-style-type: none"><li>• To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li><li>• To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li><li>• To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors.</li><li>• To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</li><li>• To establish whether a number up to 100 is prime and recall prime numbers up to 19.</li></ul>
Using multiplication and division facts	<ul style="list-style-type: none"><li>• To multiply and divide numbers mentally drawing upon known facts.</li><li>• To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li><li>• To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li></ul>
Angles	<ul style="list-style-type: none"><li>• To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li><li>• To draw given angles, and measure them in degrees (<math>^{\circ}</math>).</li><li>• To identify:<ul style="list-style-type: none"><li>• angles at a point and one whole turn (total <math>360^{\circ}</math>)</li><li>• angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>)</li><li>• other multiples of <math>90^{\circ}</math>.</li></ul></li></ul>
Length, perimeter and area	<ul style="list-style-type: none"><li>• To convert between different units of measure (for example, kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre).</li><li>• To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.</li><li>• To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</li><li>• To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li><li>• To calculate and compare the area of squares and rectangles including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes.</li></ul>

• To assess the half-term's work.



## Year 5

### Autumn 2

Date	Topic	Curriculum Objective
	Written methods for multiplication	<ul style="list-style-type: none"><li>• To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li><li>• To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li><li>• To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li></ul>
	Divide 4-digit numbers	<ul style="list-style-type: none"><li>• To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context.</li><li>• To multiply and divide numbers mentally drawing upon known facts.</li><li>• To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li></ul>
	Fractions and decimals: tenths and hundredths	<ul style="list-style-type: none"><li>• To compare and order fractions whose denominators are all multiples of the same number.</li><li>• To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</li><li>• To read and write decimal numbers as fractions (for example, <math>0.71 = \frac{71}{100}</math>).</li></ul>
	Decimals: tenths, hundredths, thousandths	<ul style="list-style-type: none"><li>• To read, write, order and compare numbers with up to three decimal places.</li><li>• To read and write decimal numbers as fractions (for example, <math>0.71 = \frac{71}{100}</math>).</li><li>• To round decimals with two decimal places to the nearest whole numbers and to one decimal place.</li><li>• To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.</li><li>• To solve problems involving number up to three decimal places.</li></ul>
	2D and 3D shapes	<ul style="list-style-type: none"><li>• To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li><li>• To use the properties of rectangles to deduce related facts and find missing lengths and angles.</li><li>• To identify 3D shapes including cubes and cuboids from 2D representations.</li></ul>
	Tables and bar charts	<ul style="list-style-type: none"><li>• To complete, read and interpret information in tables, including timetables.</li></ul>
<b>Assess and Review</b>		<ul style="list-style-type: none"><li>• To assess the half-term's work.</li></ul>



## Year 5

### Spring 1

Date	Topic	Curriculum Objective
	Negative numbers, and solving problems involving numbers	<ul style="list-style-type: none"><li>• To read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit.</li><li>• To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</li><li>• To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero.</li><li>• To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000.</li><li>• To solve number problems and practical problems that involve all of the above.</li></ul>
	Addition and subtraction of large numbers and money	<ul style="list-style-type: none"><li>• To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li><li>• To add and subtract numbers mentally with increasingly large numbers.</li><li>• To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li><li>• To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li><li>• To solve problems involving numbers up to three decimal places.</li></ul>
	Long multiplication, square numbers and cube numbers	<ul style="list-style-type: none"><li>• To multiply and divide numbers mentally drawing upon known facts.</li><li>• To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li><li>• To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li><li>• To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li><li>• To recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>).</li><li>• To calculate and compare the area of squares and rectangles including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes.</li></ul>
	Adding and subtracting fractions	<ul style="list-style-type: none"><li>• To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements <math>&gt; 1</math> as a mixed number: <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>.</li><li>• To add and subtract fractions with the same denominator and multiples of the same number.</li></ul>
	Reflections and translations	<ul style="list-style-type: none"><li>• To 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.</li></ul>
	Mass	<ul style="list-style-type: none"><li>• To convert between different units of measure (kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre).</li><li>• To understand and use basic equivalences between metric units and common imperial units such as inches, pounds and pints.</li><li>• To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</li></ul>
<b>Assess and Review</b>		<ul style="list-style-type: none"><li>• To assess the half-term's work.</li></ul>



## Year 5

### Spring 2

Date	Topic	Curriculum Objective
	Addition and subtraction: mental and written methods for large numbers	<ul style="list-style-type: none"><li>• To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li><li>• To add and subtract numbers mentally with increasingly large numbers.</li><li>• To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li><li>• To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li></ul>
	Multiplication and division: written methods	<ul style="list-style-type: none"><li>• To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li><li>• To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li><li>• To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context.</li><li>• To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li></ul>
	Calculating with fractions	<ul style="list-style-type: none"><li>• To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements <math>&gt; 1</math> as a mixed number: <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>.</li><li>• To add and subtract fractions with the same denominator and multiples of the same number.</li><li>• To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</li></ul>
	Percentages	<ul style="list-style-type: none"><li>• To recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction.</li></ul>
	Capacity	<ul style="list-style-type: none"><li>• To convert between different units of measure (kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre).</li><li>• To understand and use basic equivalences between metric units and common imperial units such as inches, pounds and pints.</li><li>• To estimate volume and capacity</li><li>• To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling</li></ul>
	Line graphs/ comparative graphs	<ul style="list-style-type: none"><li>• To solve comparison, sum and difference problems using information presented in a line graph.</li></ul>
<b>Assess and Review</b>		<ul style="list-style-type: none"><li>• To assess the half-term's work.</li></ul>



## Year 5

### Summer 1

Date	Topic	Curriculum Objective
	Negative numbers and Roman numerals	<ul style="list-style-type: none"> <li>To count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</li> <li>To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero.</li> <li>To round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000.</li> <li>To solve number problems and practical problems that involve all of the above.</li> <li>To read numerals to 1000 (M) and recognise years written in Roman numerals.</li> </ul>
	Adding and subtracting large and small numbers	<ul style="list-style-type: none"> <li>To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li> <li>To add and subtract numbers mentally with increasingly large numbers.</li> <li>To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li> <li>To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</li> <li>To solve problems involving numbers up to three decimal places.</li> </ul>
	Long multiplication and division with remainders	<ul style="list-style-type: none"> <li>To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li> <li>To divide numbers up to 4 digits by a one-digit number using the efficient written method of short division and interpret remainders appropriately for the context.</li> <li>To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li> </ul>
	Working with fractions	<ul style="list-style-type: none"> <li>To recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements <math>&gt; 1</math> as a mixed number: <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>.</li> <li>To add and subtract fractions with the same denominator and multiples of the same number.</li> </ul>
	Diagonals and problems involving angles	<ul style="list-style-type: none"> <li>To know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles</li> <li>To draw given angles, and measure them in degrees (<math>^{\circ}</math>).</li> <li>To identify:               <ul style="list-style-type: none"> <li>angles at a point and one whole turn (total <math>360^{\circ}</math>)</li> <li>angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>)</li> <li>other multiples of <math>90^{\circ}</math>.</li> </ul> </li> <li>To use the properties of a rectangle to deduce related facts and find missing lengths and angles.</li> <li>To distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> </ul>
	Volume, time and money	<ul style="list-style-type: none"> <li>To estimate volume (e.g. using <math>1\text{ cm}^3</math> blocks to build cubes and cuboids) and capacity (e.g. using water).</li> <li>To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling</li> <li>To solve problems involving converting between units of time.</li> </ul>
<b>Assess and Review</b>		<ul style="list-style-type: none"> <li>To assess the half-term's work.</li> </ul>



## Year 5

## Summer 2

Date	Topic	Curriculum Objective
	Addition and subtraction of money	<ul style="list-style-type: none"><li>• To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction).</li><li>• To add and subtract numbers mentally with increasingly large numbers.</li><li>• To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</li></ul>
	Multiplication and division of money	<ul style="list-style-type: none"><li>• To multiply numbers up to 4 digits by a one- or two-digit number using an efficient written method, including long multiplication for two-digit numbers.</li><li>• To multiply and divide numbers mentally drawing upon known facts.</li><li>• To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li><li>• To solve problems involving multiplication and division where larger numbers are used by decomposing them into factors.</li><li>• To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</li></ul>
	Decimals and fractions	<ul style="list-style-type: none"><li>• To read, write, order and compare numbers with up to three decimal places.</li><li>• To read and write decimal numbers as fractions (for example, <math>0.71 = \frac{71}{100}</math>).</li><li>• To recognise and use thousandths and relate them to tenths, hundredths and decimals equivalents.</li><li>• To round decimals with two decimal places to the nearest whole numbers and to one decimal place.</li></ul>
	Problems involving percentages	<ul style="list-style-type: none"><li>• To recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator hundred, and as a decimal fraction.</li><li>• To solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{4}{5}</math> and those with a denominator of a multiple of 10 or 25.</li></ul>
	Perimeter, area and scale drawing	<ul style="list-style-type: none"><li>• To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</li><li>• To calculate and compare the area of squares and rectangles including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes.</li><li>• To solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li></ul>
	Using tables, and line graphs	<ul style="list-style-type: none"><li>• To complete, read and interpret information in tables, including timetables.</li><li>• To solve comparison, sum and difference problems using information presented in a line graph.</li></ul>
<b>Assess and Review</b>		<ul style="list-style-type: none"><li>• To assess the half-term's work.</li></ul>