

**Autumn Term**

Area	Year 6	Year 5
Number and place value	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	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 whole number to a required degree of accuracy	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
	Solve number and practical problems that involve all of the above	Solve number problems and practical problems that involve all of the above
Addition	Use their knowledge of the order of operations to carry out calculations involving the four operations	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Add and subtract numbers mentally with increasingly large numbers
	Solve problems involving addition, subtraction, multiplication and division	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Multiplication and division	Recall multiplication and division facts to 12 x 12	Recall facts in x2, x3, x4, x5, x6, x10 tables and derive division facts. Begin to recall facts in x7, x8 and x9 tables, squares to 10 x 10
	Identify common factors, common multiples and prime numbers	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
		Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
	Multiply multi-digit numbers up to 4 digits	Multiply numbers up to 4 digits by a one-

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	by a two-digit whole number using the formal written method of long multiplication	or two-digit number using a formal written method, including long multiplication for two-digit numbers
	Perform mental calculations, including with mixed operations and large numbers	Multiply and divide numbers mentally drawing upon known facts
	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	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
	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	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
Mass	Use, read, write and convert between standard units, converting measurements of mass from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places	Convert between different units of metric measure (gram and kilogram)
	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Understand and use approximate equivalences between metric units and common imperial units such as pounds and pints
		Use all four operations to solve problems involving measure [mass] using decimal notation, including scaling
Shape	Draw 2-D shapes using given dimensions and angles	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
	Recognise, describe and build simple 3-D shapes, including making nets	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	Draw given angles, and measure them in degrees (°)
	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	Identify: <ul style="list-style-type: none"> <li>• angles at a point and one whole turn (total 360°)</li> <li>• angles at a point on a straight line</li> </ul>

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		<p>and a turn (total <math>180^\circ</math>)</p> <ul style="list-style-type: none"> <li>• other multiples of <math>90^\circ</math></li> </ul>
	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	Use the properties of rectangles to deduce related facts and find missing lengths and angles
	Describe positions on the full coordinate grid (all four quadrants)	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	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
Perimeter and area	Recognise that shapes with the same areas can have different perimeters and vice versa	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
	Recognise when it is possible to use formulae for area and volume of shapes	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm <sup>2</sup> ) and square metres (m <sup>2</sup> ) and estimate the area of irregular shapes
	Calculate the area of parallelograms and triangles	

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Spring term

Area	Year 6	Year 5
Number and Place Value	Read, write, order and compare numbers up to 10 000 000 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 whole number to a required degree of accuracy	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
	Solve number and practical problems that involve all of the above	Solve number problems and practical problems that involve all of the above
Shape (left over from last HT)	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	
Prime numbers and factors	Identify common factors, common multiples and prime numbers	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
	Identify prime numbers	Establish whether a number up to 100 is prime and recall prime numbers up to 19
Fractions	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Compare and order fractions whose denominators are all multiples of the same number
	Compare and order fractions, including fractions $> 1$	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $> 1$ as a mixed number
	Multiply simple pairs of proper fractions, writing the answer in its simplest form	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
	Divide proper fractions by whole numbers	Round decimals with two decimal places to the nearest whole number and to one decimal place
	Associate a fraction with division and calculate decimal fraction equivalents	Read, write, order and compare numbers with up to three decimal places
	Identify the value of each digit in numbers	Solve problems involving number up to

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	given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	three decimal places
	Multiply one-digit numbers with up to two decimal places by whole numbers	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
	Use written division methods in cases where the answer has up to two decimal places	Add and subtract fractions with the same denominator and denominators that are multiples of the same number
	Solve problems which require answers to be rounded to specified degrees of accuracy	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$ ]
		Solve problems which require knowing percentage and decimal equivalents of and those fractions with a denominator of a multiple of 10 or 25
Volume and Capacity	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 volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places	Use all four operations to solve problems involving measure [for example, volume] using decimal notation, including scaling
	Recognise when it is possible to use formulae for area and volume of shapes	Estimate volume [for example, using $1 \text{ cm}^3$ 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 ( $\text{cm}^3$ ) and	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

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	cubic metres ( $m^3$ ), and extending to other units [for example, $mm^3$ and $km^3$ ]	
Statistics	Interpret and construct pie charts and line graphs and use these to solve problems	
	Calculate and interpret the mean as an average	
Perimeter and area	Recognise that shapes with the same areas can have different perimeters and vice versa	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
	Recognise when it is possible to use formulae for area and volume of shapes	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
	Calculate the area of parallelograms and triangles	

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