

Autumn 1		
Strand	Year 4	Year 5
Number and place value	<ul style="list-style-type: none"> recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations find 1000 more or less than a given number round any number to the nearest 10, 100 or 1000 solve number and practical problems that involve all of the above and with increasingly large positive numbers 	<ul style="list-style-type: none"> 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 1000 000 round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 multiply and divide whole numbers by 10, 100 and 1000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero read Roman numerals to 1000 (M) and recognise years written in Roman numerals solve number problems and practical problems that involve all of the above
Number calculation (addition and subtraction)	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> add and subtract numbers mentally with increasingly large numbers add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) 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 number problems and practical problems that involve all of the above
Geometry (properties of shape)	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> identify 3-D shapes, including cubes and other cuboids, from 2-D representations state and 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

Autumn 2

Strand	Year 4	Year 5
Number (multiplication and division)	<ul style="list-style-type: none"> • count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers • 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 • use place value, known and derived facts to multiply and divide mentally, including multiplying together three numbers • multiply two-digit and three-digit numbers by a one-digit number using formal written layout – ladder method – short multiplication • divide two-digit and three-digit numbers by a one-digit number using formal written – short division • recognise and use factor pairs and commutativity in mental calculations • 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 <i>n</i> objects are connected to <i>m</i> objects 	<ul style="list-style-type: none"> • multiply and divide whole numbers by 10, 100 and 1000 • multiply and divide numbers mentally drawing upon known facts • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • 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 • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
Statistics (graphs)	<ul style="list-style-type: none"> • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and line (time) graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other simple line graphs 	<ul style="list-style-type: none"> • solve comparison, sum and difference problems using information presented in a line graphs

Spring 1

Strand	Year 4	Year 5
Number (multiples, factors and prime numbers)	<ul style="list-style-type: none"> Revision of multiplication/ division objectives as required for fractions and decimals objectives 	<ul style="list-style-type: none"> 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 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
Fractions and decimals	<ul style="list-style-type: none"> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ 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 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 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 identify, name and write equivalent fractions of a given fraction including tenths and hundredths recognise and show, using diagrams, families of common equivalent fractions add and subtract fractions with the same denominator 	<ul style="list-style-type: none"> compare and order fractions whose denominators are all multiples of the same number 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths add and subtract fractions with the same denominator and denominators that are multiples of the same number" multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 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 solve problems involving number up to three decimal places multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Spring 2

Strand	Year 4	Year 5
Measurement (money)	<ul style="list-style-type: none"> • solve simple measure and money problems involving fractions and decimals to two decimal places 	<ul style="list-style-type: none"> • use all four operations to solve problems involving measure [for example money] using decimal notation, including scaling
Measurement (measure problems and perimeter, area and volume)	<ul style="list-style-type: none"> • convert between different units of measure [for example, km to metre, hour to minute] • estimate, compare and calculate different measures, including money in pounds and pence • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • convert between different units of measure [for example, kilometre to metre] • find the area of rectilinear shapes by counting squares 	<ul style="list-style-type: none"> • convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • 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 (cm²) and square metres (m²) and estimate the area of irregular shapes • estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling
Geometry (angles)	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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°

Summer 1

Strand	Year 4	Year 5
Percentages (Year 5)		<ul style="list-style-type: none"> 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
Problem solving using all four operation, fractions and decimals	<ul style="list-style-type: none"> solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 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 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 	<ul style="list-style-type: none"> solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
Geometry (position and direction)	<ul style="list-style-type: none"> describe positions on a 2-D 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 	<ul style="list-style-type: none"> 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

Summer 2

Strand	Year 4	Year 5
Measurement (time and other measure problems)	<ul style="list-style-type: none"> • 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 • solve simple measure and money problems involving fractions and decimals to two decimal places • convert between different units of measure [for example, km to metre, hour to minute] • estimate, compare and calculate different measures, including money in pounds and pence 	<ul style="list-style-type: none"> • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling • solve problems involving converting between units of time • solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables