

Autumn

| Weeks | Y4 | Y5 |
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| 1-5 | <p>Number - number and place value</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1,000 find 1,000 more or less than a given number count backwards through 0 to include negative numbers recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s) order and compare numbers beyond 1,000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1,000 solve number and practical problems that involve all of the above and with increasingly large positive numbers read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value | <p>Number - number and place value</p> <p>Pupils should be taught to:</p> <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 1,000,000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 solve number problems and practical problems that involve all of the above read Roman numerals to 1,000 (M) and recognise years written in Roman numerals |
| 6-8 | <p>Number - addition and subtraction</p> <p>Pupils should be taught to:</p> <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 | <p>Number - addition and subtraction</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy |

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| | | <ul style="list-style-type: none"> • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |
| 9-11 | Number - multiplication and division A Pupils should be taught to: <ul style="list-style-type: none"> • recall multiplication and division facts for multiplication tables up to 12×12 | Number - multiplication and division A Pupils should be taught to: <ul style="list-style-type: none"> • identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 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) • solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes |
| 12-15 | Number - fractions Pupils should be taught to: <ul style="list-style-type: none"> • recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 • 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 • add and subtract fractions with the same denominator | Number - fractions Pupils should be taught to: <ul style="list-style-type: none"> • compare and order fractions whose denominators are all multiples of the same number • 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$] |

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| | | <ul style="list-style-type: none">• 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 |
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Spring

| Weeks | Y4 | Y5 |
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| 1-4 | Number - multiplication and division B Pupils should be taught to: <ul style="list-style-type: none"> use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 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 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects | Number - multiplication and division B Pupils should be taught to: <ul style="list-style-type: none"> 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 solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates |
| 5-7 | Measurement (Area) Pupils should be taught to: <ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares | Measurement (Area and Perimeter) Pupils should be taught to: <ul style="list-style-type: none"> measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area of irregular shapes |
| 8-10 | Number - fractions (including decimals) Pupils should be taught to: <ul style="list-style-type: none"> recognise and write decimal equivalents of any number of tenths or hundreds recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ | Number - fractions (including decimals and percentages) Pupils should be taught to: <ul style="list-style-type: none"> 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 |

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| | <ul style="list-style-type: none"> 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 1 decimal place to the nearest whole number compare numbers with the same number of decimal places up to 2 decimal places solve simple measure and money problems involving fractions and decimals to 2 decimal places | <ul style="list-style-type: none"> round decimals with 2 decimal places to the nearest whole number and to 1 decimal place recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 |
| 11-12 | <p>Geometry - properties of shapes</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> 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 2 right angles by size | <p>Geometry - properties of shapes</p> <p>Pupils should be taught to:</p> <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: <ul style="list-style-type: none"> angles at a point and 1 whole turn (total 360°) angles at a point on a straight line and half a turn (total 180°) other multiples of 90° |

Summer

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| Weeks | Y4 | Y5 |
| 1-2 | <p>Geometry - properties of shapes</p> <p>Pupils should be taught to:</p> <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 | <p>Geometry - properties of shapes</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify 3-D shapes, including cubes and other cuboids, from 2-D representations use the properties of rectangles to deduce related facts and find missing lengths and angles |

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| | <ul style="list-style-type: none"> complete a simple symmetric figure with respect to a specific line of symmetry | <ul style="list-style-type: none"> distinguish between regular and irregular polygons based on reasoning about equal sides and angles |
| 3-4 | Geometry - position and direction Pupils should be taught to: <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 | Geometry - position and direction Pupils should be taught to: <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 |
| 5 | Statistics Pupils should be taught to: <ul style="list-style-type: none"> 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 | Statistics Pupils should be taught to: <ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables |
| 6-7 | Measurement Pupils should be taught to: <ul style="list-style-type: none"> 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 find the area of rectilinear shapes by counting squares estimate, compare and calculate different measures, including money in pounds and pence read, write and convert time between analogue and digital 12- and 24-hour clocks | Measurement Pupils should be taught to: <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] understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] |

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| | <ul style="list-style-type: none"> • solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days | <ul style="list-style-type: none"> • 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 |
| 8-10 | Decimals (Including money) Pupils should be taught to: <ul style="list-style-type: none"> • compare numbers with the same number of decimal places up to 2 decimal places • solve simple measure and money problems involving fractions and decimals to 2 decimal places | Number - fractions (including decimals and percentages) Pupils should be taught to: <ul style="list-style-type: none"> • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with 2 decimal places to the nearest whole number and to 1 decimal place • read, write, order and compare numbers with up to 3 decimal places • solve problems involving number up to 3 decimal places |
| 11-12 | Consolidation | Number – Place Value Pupils should be taught to: <ul style="list-style-type: none"> • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 |