|  | EYFS | Key Stage One |  | Key Stage Two |  |  |  |
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|  | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|  | - Have a deep understanding of number to 10 , including the composition of each number. <br> - Subitise (recognise quantities without counting) up to 5 . <br> - 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. | - Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. <br> - Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens <br> - Identify one more and one less from a given number. <br> - Use the language of: equal to, more than, less than (fewer), most, least. <br> - Identify and represent numbers using objects and pictorial representations including the number line. <br> - Read and write numbers from 1 to 20 in numerals and words. | - Count in steps of 2, 3 , and 5 from 0 , and in tens from any number, forward or backward. <br> - Compare and order numbers from 0 up to 100 . <br> - Use <, > and = signs <br> - Identify, represent and estimate numbers using different representations, including the number line. <br> - Read and write numbers to at least 100 in numerals and in words. <br> - Recognise the place value of each digit in a two-digit number. <br> - Use place value and number facts to solve problems. | - Count from 0 in multiples of 4, 8, 50 and 100 . <br> - Find 10 or 100 more or less than a given number. <br> - Compare and order numbers up to 1000. <br> - Identify, represent and estimate numbers using different representations. <br> - Read and write numbers up to 1000 in numerals and in words. <br> - Recognise the place value of each digit in a three-digit number. <br> - Solve number problems and practical problems involving these ideas. | - Count backwards through zero to include negative numbers <br> - Count in multiples of $6,7,9,25$ and 1000. <br> - Find 1000 more or less than a given number. <br> - Order and compare numbers beyond 1000. <br> - Identify, represent and estimate numbers using different representations. <br> - Read Roman numerals to 100 (I to C ) and know that over time, the numeral system changed to include the concept of zero and place value. <br> - Recognise the place value of each digit in a four-digit number. <br> - Round any number to the nearest 10 , 100 or 1,000 , <br> - Solve number and practical problems that involve all of the above and with increasingly large positive numbers. | - Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. <br> - Count forwards or backwards in steps of powers of 10 for any given number up to $1,000000$. <br> - Read, write, order and compare numbers to at least 1,000000 and determine the value of each digit. <br> - Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals. <br> - Round any number up to <br> 1, 000000 to the nearest 10, 100, 1 000, 10000 and 100000. <br> - Solve number problems and practical problems that involve all of the above. | - Use negative numbers in context and calculate intervals across zero. <br> - Read, write, order and compare numbers up to 10 , 000000 and determine the value of each digit. <br> - Read, write, order and compare numbers up to 10,000000 and determine the value of each digit. <br> - Read, write, order and compare numbers up to 10,000000 and determine the value of each digit. <br> - Round any whole number to a required degree of accuracy. <br> - Solve number and practical problems that involve all of the above. |


|  | - Verbally count beyond 20, recognising the pattern of the counting system. <br> - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. <br> - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. | - Represent and use number bonds and related subtraction facts within 20. <br> - Add and subtract one-digit and twodigit numbers to 20 , including zero. <br> - Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. <br> - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ *-9. | - Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. <br> - Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers. <br> - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. <br> - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. <br> - Solve problems with addition and subtraction. | - Add and subtract numbers mentally, including: * a threedigit number and ones * a three-digit number and tens* a three-digit number and hundreds. <br> - Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. <br> - Estimate the answer to a calculation and use inverse operations to check answers. <br> - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. | - Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. <br> - Estimate and use inverse operations to check answers to a calculation. <br> - Solve addition and subtraction twostep problems in contexts, deciding which operations and methods to use and why. | - Add and subtract numbers mentally with increasingly large numbers. <br> - Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). <br> - Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. <br> - Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why. | - Perform mental calculations, including with mixed operations and large numbers. <br> - Use their knowledge of the order of operations to carry out calculations involving the four operations. <br> - Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy. <br> - Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why. |
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|  |  | - Recognise, find and name a half as one of two equal parts of an object, shape or quantity. <br> - Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. | - Pupils should count in fractions up to 10 , starting from any number and using the $1 / 2$ and $2 / 4$ equivalence on the number line. <br> - Recognise, find, name and write fractions $13,1 / 4$, $2 / 4$ and $3 / 4$ of a length, shape, set of objects or quantity. <br> - Write simple fractions e.g. $1 / 2$ of 6 $=3$ and recognise the equivalence of $2 / 4$ and $1 / 2$. | - Count up and down in tenths. <br> - Recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators. <br> - Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one - digit numbers or quantities by 10 . <br> - Recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators. <br> - Compare and order unit fractions, and fractions with the same denominators. <br> - Recognise and show, using diagrams, equivalent fractions with small denominators. <br> - Add and subtract fractions with the same denominator within one whole e.g. $5 / 7+1 / 7=$ 6/7). <br> - Solve problems that involve all of the above. | - Count up and down in hundredths. <br> - Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. <br> - Compare numbers with the same number of decimal places up to two decimal places. <br> - Round decimals with one decimal place to the nearest whole number. <br> - Recognise and show using diagrams, families of common equivalent fractions. <br> - Recognise and write decimal equivalents of any number of tenths or hundredths. <br> - Recognise and write decimal equivalents to $1 / 4 ; 1 / 2 ; 3 / 4$. <br> - Add and subtract fractions with the same denominator. <br> - 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. <br> - Solve problems involving | - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. <br> - Compare and order fractions whose denominators are all multiples of the same number. <br> - Read, write, order and compare numbers with up to three decimal places. <br> - Round decimals with two decimal places to the nearest whole number and to one decimal place. <br> - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. <br> - Read and write decimal numbers as fractions (e.g. 0.71 = 71/100). <br> - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. <br> - Recognise the per cent symbol (\%) and understand that per cent relates to "number of parts | - Compare and order fractions, including fractions >1 <br> - Identify the value of each digit in numbers given to three decimal places. <br> - Solve problems which require answers to be rounded to specified degrees of accuracy. <br> - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. <br> - Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 ) for a simple fraction (e.g. 3/8.) <br> - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. <br> - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. |
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|  |  |  |  |  | increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. <br> - Solve simple measure and money problems involving fractions and decimals to two decimal places. | per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction. <br> - Add and subtract fractions with the same denominator and multiples of the same number. <br> - Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $>1$ as a mixed number (e.g. $2 / 5+4 / 5=6 / 5=$ 11/5). <br> - Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. <br> - Solve problems involving numbers up to three decimal places. <br> - Solve problems which require knowing percentage and decimal equivalents of $1 / 2,1 / 4,1 / 5$, $2 / 5,4 / 5$ and those with a denominator of a multiple of 10 or 25 . | - Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1 / 4 \times 1 / 2=1 / 8)$. <br> - Multiply one-digit numbers with up to two decimal places by whole numbers. <br> - Divide proper fractions by whole numbers (e.g. 1/3 $\div 2=1 / 6$ ). <br> - Multiply one-digit numbers with up to two decimal places by whole numbers. <br> - Multiply and divide numbers by 10 , 100 and 1000 where the answers are up to three decimal places. <br> - Identify the value of each digit to three decimal places and multiply and divide numbers by 10 , 100 and 1000 where the answers are up to three decimal places. <br> - Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 ) for a simple fraction (e.g. 3/8). |
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|  |  |  |  |  |  | Use written <br> division methods <br> in cases where the <br> answer has up to <br> two decisal |
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| places. |  |  |  |  |  |  |


|  |  | - Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=$ * 9 . <br> - Represent and use number bonds and related subtraction facts within 20. <br> - Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. | - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. <br> - Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. <br> - Compare and sequence intervals of time. <br> - Order and arrange combinations of mathematical objects in patterns. | - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. <br> - Solve problems, including missing number problems, involving multiplication and division, including integer scaling. | - Perimeter can be expressed algebraically as 2(a + b) where $a$ and $b$ are the dimensions in the same unit. | - Use the properties of rectangles to deduce related facts and find missing lengths and angles. | - Express missing number problems algebraically. <br> - Find pairs of numbers that satisfy number sentences involving two unknowns. <br> - Enumerate all possibilities of combinations of two variables. <br> - Use simple formulae. <br> - Recognise when it is possible to use formulae for area and volume of shapes. <br> - Generate and describe linear number sequences. |
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|  |  | - Compare, describe and solve practical problems for: lengths and heights, double/half, mass/weight, capacity and volume and time. <br> - Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]. <br> - Measure and begin to record the following: * lengths and heights * mass/weight * capacity and volume * time (hours, minutes, seconds). <br> - Recognise and know the value of different denominations of coins and notes. <br> - Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. <br> - Recognise and use language relating to dates, including days of the week, weeks, months and years. | - Compare and order lengths, mass, volume/capacity and record the results using $>,<$ and $=$. <br> - Compare and sequence intervals of time. <br> - Choose and use appropriate standard units to estimate and measure length, height ( $\mathrm{m} / \mathrm{cm}$ ); mass (kg/g); temperature ( ${ }^{\circ} \mathrm{C}$ ); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. <br> - Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. <br> - Find different combinations of coins that equal the same amounts of money. <br> - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. <br> - Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a | - Compare durations of events, for example to calculate the time taken by particular events or tasks. <br> - Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. <br> - Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity ( $1 / \mathrm{ml}$ ). <br> - Measure the perimeter of simple 2-D shapes. <br> - Add and subtract amounts of money to give change, using both $£$ and $p$ in practical contexts. <br> - Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24hour clocks. <br> - Estimate and read time with increasing accuracy to the nearest minute; | - Estimate, compare and calculate different measures, including money in pounds and pence. <br> - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. <br> - Find the area of rectilinear shapes by counting squares. <br> - Read, write and convert time between analogue and digital 12 and 24-hour clocks. <br> - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. <br> - Convert between different units of measure (e.g. kilometre to metre; hour to minute). | - Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm 2 ) and square metres (m 2 ) and estimate the area of irregular shapes (also included in measuring). <br> - Estimate volume (e.g. using 1 cm 3 blocks to build cubes and cuboids) and capacity (e.g. using water). <br> - Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling. <br> - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. <br> - Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm 2 ) and square metres (m 2 ) and estimate the area of irregular shapes recognise | - Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3), and extending to other units such as mm3 and km3. <br> - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. <br> - Recognise that shapes with the same areas can have different perimeters and vice versa. <br> - Calculate the area of parallelograms and triangles. <br> - Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [e.g. mm 3 and km3]. <br> - Recognise when it is possible to use formulae for area |
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|  |  | - Recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. | - Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. <br> - Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. <br> - Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]. <br> - Compare and sort common 2-D and 3-D shapes and everyday objects. | - Draw 2-D shapes and make 3-D shapes using modelling materials; recognise $3-D$ shapes in different orientations and describe them. <br> - Recognise angles as a property of shape or a description of a turn. <br> - Identify right angles, recognise that two right angles make a halfturn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. <br> - Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. | - Identify lines of symmetry in 2-D shapes presented in different orientations. <br> - Complete a simple symmetric figure with respect to a specific line of symmetry. <br> - Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. <br> - Identify acute and obtuse angles and compare and order angles up to two right angles by size. | - Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. <br> - Draw given angles, and measure them in degrees (o). <br> - Use the properties of rectangles to deduce related facts and find missing lengths and angles. <br> - Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. <br> - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. <br> - Identify: * angles at a point and one whole turn (total 360 o ) * angles at a point on a straight line and $1 / 2$ a turn (total 180 o ) * other multiples of 90 o. | - Recognise, describe and build simple 3-D shapes, including making nets. <br> - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice identify 2-D shapes on the the radius. <br> - Draw 2-D shapes using given dimensions and angles. <br> - Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygon. <br> - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. |
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|  | - Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects to solve problems. <br> - Recognise, create and describe patterns. | - Describe position, direction and movement, including half, quarter and three-quarter turns. | - 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 anticlockwise). <br> - Order and arrange combinations of mathematical objects in patterns and sequences. |  | - Describe positions on a 2-D grid as coordinates in the first quadrant. <br> - Describe movements between positions as translations of a given unit to the left/right and up/down. <br> - Plot specified points and draw sides to complete a given polygon. | - 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. | - Describe positions on the full coordinate grid (all four quadrants). <br> - Draw and translate simple shapes on the coordinate plane and reflect them in the axes. |
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|  |  |  | - Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. <br> - Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. <br> - Ask and answer questions about totalling and comparing categorical data. | - Interpret and present data using bar charts, pictograms and tables. <br> - Solve one-step and twostep questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables. | - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> - Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. | - Complete, read and interpret information in tables, including timetables. <br> - Solve comparison, sum and difference problems using information presented in a line graph. | - Interpret and construct pie charts and line graphs and use these to solve problems. <br> - Calculate and interpret the mean as an average. |

