| Unit | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PLACE VALUE COUNT | - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number <br> - Count numbers to 100 in numerals; count in multiples of twos, fives and tens | - count in steps of 2, 3 , and 5 from 0 , and in tens from any number, forward and backward | - count from 0 in multiples of 4, 8 , 50 and 100; find 10 or 100 more orless than a given number | - count in multiplesof 6, 7, 9, 25 and1000 <br> - count backwards through zero to include negative numbers | - count forwards orbackwards in steps of powers of10 for any given number up to 1000000 <br> - count forwards and backwards with positive andnegative whole numbers, including throughzero |  |
|  | Autumn 1 <br> Spring 1 <br> Spring 3 <br> Summer 4 | Autumn 1 | Autumn 1 Autumn 3 | Autumn 1 Autumn 4 | Autumn 1 Summer 4 |  |


| PLACE VALUE REPRESENT | - identify and represent numbers using objects and pictorial representation s <br> - read and write numbers to 100 in numerals <br> - read and write numbers from 1 to 20 in numerals and words | - read and write numbers to at least 100 in numerals and in words <br> - identify, represent and estimate numbers using different representations, including the number line | - identify, represent and estimate numbers using different representations <br> - read and write numbers up to 1000 in numerals and in words | - identify, representand estimate numbers using different representations <br> - read Roman numerals to 100 (I to C) and know that over time, thenumeral system changed to include the concept of zero | - read, write, (order and compare) numbers to at least 1000000 and determine thevalue of each digit <br> - read Roman numerals to 1000 <br> (M) and recogniseyears written in Roman numerals | - read, write, (order and compare) numbers up to 10 000000 and determine the value of each digit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |


|  |  |  |  | and place value |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Autumn 1 <br> Spring 1 <br> Spring 3 <br> Summer 4 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 |
| PLACE VALUE USE AND COMPARE | - given a number, identify one more and one less | - recognise the place value of each digit in a two-digit number (tens, ones) <br> - compare and order numbers from 0 up to 100; use $<,>$ and $=$ signs | - recognise the place value of each digit in a three-digit number (hundreds, tens, ones) <br> - compare and order numbers up to 1000 | - find 1000 more orless than a givennumber <br> - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) <br> - order and compare numbersbeyond 1000 | - (read, write) order and compare numbers to at least 1000000 and determine thevalue of each digit | - (read, write), order and compare numbersup to 10 000000 and determine thevalue of each digit |
|  | Autumn 1 <br> Spring 1 <br> Spring 3 <br> Summer 4 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 |
| PLACE VALUE PROBLEMS AND ROUNDING |  | - use place value and number facts to solve problems | - solve number problems and practical problems involving these ideas | - round any number to the nearest 10,100 or 1000 <br> - solve number and practical problemsthat involve all of the above and with increasingly large positive numbers | - interpret negative numbers in context <br> - round any number up to 1 000000 to the nearest 10, 100, 1000, 10000 and 100000 <br> - solve number | - round any whole number to a required degree of accuracy <br> - use negative numbers in context, and calculate intervals across zero <br> - solve number and practical problems |


|  |  |  |  |  | problems and practical problemsthat involve all of the above | that involve all of the above |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 | Autumn 1 |
| ADDITION AND SUBTRACTION CALCULATIONS | - add and subtract one-digit and twodigit numbers to 20 , including zero | - 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 onedigit numbers | - add and subtract numbers mentally, including: a three-digit 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 | - add and subtract numbers with up to 4 digits using the formal writtenmethods of columnar additionand subtraction where appropriate | - add and subtractwhole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) <br> - add and subtract numbers mentallywith increasingly large numbers | - 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 |
|  | Autumn 2 <br> Spring 2 | Autumn 2 | Autumn 2 | Autumn 2 | Autumn 2 | Autumn 2 |
| ADDITION AND SUBTRACTION PROBLEMS | - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing | - solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving | - solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | - solve addition andsubtraction two- step problems in contexts, deciding which operations and methods to use and why | - solve addition andsubtraction multi-step problems in contexts, deciding which operations and methods to use and why <br> - solve problems | - solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why |


|  | number problems such as 7 = ? - 9 | numbers, quantities and measures applying their increasing knowledge of mental and written methods |  |  | involving <br> addition, subtraction, multiplication anddivision and a combination of these, including understanding themeaning of the equals sign |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Autumn 2 <br> Spring 2 | Autumn 2 | Autumn 2 | Autumn 2 | Autumn 2 | Autumn 2 |
| MULTIPLICATION AND DIVISION RECALL/USE |  | - recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers <br> - show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot | - recall and use multiplication and division facts for the 3,4 and 8 multiplication tables | - recall multiplication anddivision facts for multiplication tables up to $12 \times$ 12 <br> - use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1 ; dividing by 1; multiplying together three numbers <br> - recognise and use factor pairs and commutativity in mental calculations | - identify multiplesand factors, including findingall factor pairs ofa number, and common factors of two numbers <br> - know and use thevocabulary of prime numbers, prime factors andcomposite (non- prime) numbers <br> - establish whethera number up to 100 is prime and recall prime numbers up to 19 <br> - recognise and use square numbers and cube | - identify common factors, common multiples and prime numbers <br> - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy |


|  |  |  |  |  | numbers, and thenotation for squared ( ${ }^{2}$ ) and cubed ( ${ }^{3}$ ) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Spring 2 | Autumn 3 <br> Spring 1 | Autumn 4 Spring 1 | Autumn 3 | Autumn 2 |
| MULTIPLICATION AND DIVISION CALCULATIONS |  | - calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ( $\times$ ), division ( $\div$ ) and equals (=) signs | - write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods | - multiply twodigitand threedigit numbers by a one-digit numberusing formal written layout | - multiply numbers up to 4 digits by a one- ortwo-digit number using a formal written method, including long multiplication for two- digit numbers <br> - multiply and divide numbers mentally drawing upon knownfacts <br> - 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 <br> - multiply and divide whole numbers and those involving decimals by 10 , | - multiply multi-digit numbers up to 4 digitsby a two-digit whole number using the formal written methodof long multiplication <br> - divide numbers up to 4digits by a twodigit 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 <br> - divide numbers up to 4digits by a twodigit number using the formal written methodof short division where appropriate, interpreting remainders |


|  |  |  |  |  | 100and 1000 | according to the context <br> - perform mental calculations, includingwith mixed operations and large numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Spring 2 | Autumn 3 <br> Spring 1 | Spring 1 | Autumn 3 <br> Spring 1 | Autumn 2 |
| MULTIPLICATION AND DIVISION PROBLEMS | - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher | - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | - solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in whichn objects are connected to $m$ objects | - solve problems involving multiplying and adding, including using the distributive law tomultiply two digitnumbers by one digit, integer scaling problems and harder correspondence problems such asn objects are connected to $m$ objects | - solve problems involving multiplication anddivision including using their knowledge of factors and multiples, squaresand cubes <br> - solve problems involving multiplication anddivision, includingscaling by simple fractions and problems involving simple rates | - solve problems involving addition, subtraction, multiplication and division |
|  | Summer 1 | Spring 2 | Spring 1 | Spring 1 | Autumn 3 <br> Spring 1 | Autumn 2 |
| MULTIPLICATION AND DIVISION COMBINED |  |  |  |  | - solve problems involving addition, subtraction, multiplication anddivision and a | - use their knowledge of the order of operations to carry out calculations |


|  |  |  |  |  | combination of these, including understanding themeaning of the equals sign | involving the four operations |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Spring 1 | Autumn 2 |
| FRACTIONS <br> RECOGNISE AND WRITE | - 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 | - recognise, find, name and write <br> fractions ${ }^{1} \begin{array}{ll}1 & 2 \\ 3 & 4\end{array}$ and $_{4}^{3}$ of a length, shape, set of objects or quantity | - count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 <br> - recognise, find and write fractions of a discrete set of objects: unit fractions and nonunit fractions with small denominators <br> - recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators | - count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths byten. | - identify, name and write equivalent fractions of a given fraction, represented visually, includingtenths and hundredths <br> - recognise mixed numbers and improper fractions and convert from one form to the otherand write mathematical statements > 1 as a mixed number [for example, ${ }_{5}^{2}+$ ${ }_{5}^{4}={ }_{5}^{6}=1_{1}^{1}{ }_{5}$ |  |
|  | Summer 2 | Summer 1 | Spring 3 | Spring 4 <br> Summer 1 | Autumn 4 |  |
| FRACTIONS <br> COMPARE |  | - Recognise the equivalence of ${ }_{4}$ and 1 | - recognise and show, using diagrams, | - recognise and show, using diagrams, | - compare and order fractions whose | - use common factors to simplify fractions; use |



|  |  |  |  | harder fractions to calculate quantities, and fractions to dividequantities, including nonunitfractions where the answer is a whole number |  |  |
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|  |  |  | Spring 3 <br> Summer 1 | Spring 3 |  |  |
| DECIMALS <br> RECOGNISE WRITE COMPARE |  |  |  | - recognise and write decimal equivalents of anynumber of tenths or hundredths <br> - recognise andwrite decimal equivalents to <br> 113 <br> 4'2'4 <br> - round decimals with one decimal place to the nearest whole number <br> - compare numberswith the same number of decimal places up to two decimal places | - read and write decimal numbersas fractions [for example, $0.71=$ 71 100 <br> - recognise and use thousandths andrelate them to tenths, hundredths and decimal equivalents <br> - round decimals with two decimal places to the nearest whole number and to one decimal place <br> - read, write, orderand compare numbers with upto three | - identify the value of each digit in numbers given to three decimal places |



|  |  |  |  |  |  | be found by using integer multiplication and division facts <br> - solve problems involving the calculation/use of percentages for comparison <br> - solve problems involving similar shapes where the scale factor is known or can be found <br> - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Spring 1 |
| ALGEBRA | - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problemssuch as $7=$ - -9 | - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | - solve problems, including missing number problems |  |  | - use simple formulae <br> - generate and describe linear number sequences <br> - express missing number problems algebraically <br> - find pairs of numbers that satisfy an equation with twounknowns <br> - enumerate possibilities of |


|  |  |  |  |  |  | combinations of two variables |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Spring 2 |
| MEASUREMENT <br> USING MEASURES | - compare, describe and solve practical problems for: <br> lengths and heights <br> > mass/weight <br> > capacity and volume <br> > time <br> - measure and begin to record the following: <br> $>$ lengths and heights <br> > mass/weight <br> > capacity and volume <br> > time (hours, minutes, seconds) | - choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ); mass (kg/g); temperature $\left({ }^{\circ} \mathrm{C}\right)$; capacity (litres/ml)to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels <br> - compare and order lengths, mass, volume/capacity and record the results using >, < and = | - measure, compare, add andsubtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g); volume/capacity ( $/ \mathrm{ml}$ ) | - Convert <br> between different units ofmeasure [for example, kilometre to metre; hour to minute] <br> - estimate, compare and calculate different measures | - convert <br> between <br> different units of metric measure <br> - understand and use approximate equivalences between metric units and common imperialunits such as inches, pounds and pints <br> - use all four operations to solve problems involving measure[for example, length, mass, volume, money] using decimal notation, including scaling | - solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. where appropriate <br> - use, read, write and convert between standardunits, converting measurements of length, mass, volume and time from a smaller unit of measure toa larger unit, andvice versa, using decimal notation to up to 3 d.p. <br> - convert between miles and kilometres |
|  | Spring 4 <br> Spring 5 <br> Summer 6 | Spring 3 <br> Spring 4 | Spring 2 <br> Spring 4 | Spring 2 <br> Summer 3 | Spring 4 <br> Summer 5 <br> Summer 6 | Autumn 5 |
| MEASUREMENT MONEY | - recognise and know the value of different denominations of coins and notes | - recognise and use symbols for pounds ( $£$ ) and pence (p); combine amountsto make | - add and subtract amounts of money to give change, using both £ and pin | - estimate, compare and calculate different measures, | - use all four operations to solve problems involving measure[for |  |


|  |  | 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 | practical contexts | including money in pounds and pence | example, money] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Summer 5 | Spring 1 | Summer 2 | Summer 2 | Summer 3 |  |
| MEASUREMENT TIME | - sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] <br> - recognise and use language relating to dates, including days of the week, weeks, months and years <br> - tell the time to the hour and half past the hour and draw | - compare and sequence intervals of time <br> - tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times <br> - know the number of minutes in an hour and the number of hours in a day | - 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; record and compare time in terms of seconds, minutes andhours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight | - read, write and convert time between analogueand digital 12-and 24-hour clocks <br> - solve problems involving converting from hours to minutes;minutes to seconds; years tomonths; weeks todays | - solve problems involving converting between units oftime | - use, read, write and convert between standardunits, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa |


|  | the hands on a clock face to show these times |  | - know the number of seconds in a minuteand the number of days in each month,year and leap year <br> - compare durations ofevents [for example to calculate the time taken by particular events or tasks] |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Summer 6 | Summer 2 | Summer 3 | Summer 3 | Summer 5 | Autumn 5 |
| MEASUREMENT <br> PERIMETER <br> AREA <br> VOLUME |  |  | - measure the perimeter of simple 2-D shapes | - measure and calculate the perimeter of a rectilinear figure(including squares) in centimetres andmetres <br> - find the area of rectilinear shapesby counting squares | - measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <br> - calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres ( $\mathrm{cm}^{2}$ ) and square metres $\left(\mathrm{m}^{2}\right)$ and estimate the area of irregular shapes <br> - estimate volume [for example, | - recognise that shapes with the same areas can have different perimeters and vice versa <br> - recognise when it is possible to use formulae for area and volume of shapes <br> - calculate the area of parallelograms and triangles <br> - calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ( $\mathrm{cm}^{3}$ ) and cubic metres $\left(m^{3}\right)$, and extending to other units |


|  |  |  |  |  | usingblocks to build cuboids] and capacity [for example, using water] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Spring 2 | Autumn 3 <br> Spring 2 | Spring 4 <br> Summer 6 | Spring 5 |
| GEOMETRY <br> 2D SHAPES | - recognise and name common 2D shapes [for example, rectangles (including squares), circles and triangles] | - identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line <br> - identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder anda triangle on a pyramid] <br> - compare and sort common 2-D shapes and everyday objects | - draw 2-D shapes | - compare and classify geometric shapes, including quadrilaterals andtriangles, based on their propertiesand sizes <br> - identify lines of symmetry in 2-D shapes presentedin different orientations | - distinguish between regular and irregular polygons based on reasoning about equal sidesand angles. <br> - use the propertiesof rectangles to deduce related facts and find missing lengths and angles | - draw 2-D shapes using given dimensions and angles <br> - compare and classify geometric shapes based on their properties and sizes <br> - illustrate and name parts of circles, including radius, diameter and circumferenceand know that the diameter is twice the radius |
|  | Autumn 3 | Autumn 3 | Summer 4 | Summer 4 | Summer 1 | Summer 1 |
| GEOMETRY <br> 3D SHAPES | - recognise and name common 3D shapes [for example, cuboids (including cubes), pyramids and | - recognise and name common 3D shapes [for example, cuboids (including cubes), pyramids and | - make 3-D shapes using modelling materials; recognise 3-D shapes in different |  | - identify 3-D shapes, including cubes and other cuboids, from 2D representations | - recognise, describe and buildsimple 3D shapes, including making nets |


|  | spheres] | spheres] <br> - compare and sort common 3-D shapes and everyday objects | orientations and describe them |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Autumn 3 | Autumn 3 | Summer 4 |  | Summer 1 | Summer 1 |
| GEOMETRY <br> ANGLES AND LINES |  |  | - 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 turnand 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 acute andobtuse angles andcompare and order angles up to two right angles by size <br> - identify lines of symmetry in 2-D shapes presentedin different orientations <br> - completea simplesymmetric figure with respect to a specific line of symmetry | - know angles are measured in degrees: estimateand compare acute, obtuse andreflex angles <br> - draw given angles, and measure them indegrees <br> - identify: <br> $>$ angles ata pointand one whole turn (total $360^{\circ}$ ) angles at a pointona straight line and ${ }_{2}^{1}$ a turn (total $180^{\circ}$ ) other multiples of $90^{\circ}$ | - find unknown angles in any triangles, quadrilaterals, and regular polygons <br> - recognise angles where they meet at a point, are ona straight line, orare vertically opposite, and findmissing angles |
|  |  |  | Summer 4 | Summer 4 | Summer 2 | Summer 1 |
| GEOMETRY POSITION AND DIRECTION | - describe position, direction and movement, including whole, | - order and arrange combinations of mathematical objects in patterns |  | - describe <br> positionson a 2-D <br> grid as <br> coordinates in | - identify, describe and represent theposition of a shape following | - describe positions on the full coordinate grid (all four |


|  | half, quarter and three-quarter turns | and sequences <br> - 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) |  | thefirst quadrant <br> - describe movements between positionsas translations ofa given unit to the left/right and up/down <br> - plot specified points and draw sides to completea given polygon | areflection or translation, usingthe appropriate language, and know that the shape has not changed | quadrants) <br> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Summer 3 | Summer 4 |  | Summer 6 | Summer 2 | Summer 2 |
| STATISTICS <br> PRESENT AND INTERPRET DATA |  | - interpret and construct simple pictograms, tally charts, block diagrams and simple tables | - interpret and present data using bar charts, pictograms and tables | - interpret and present discreteand continuous data using appropriate graphical methods, including bar charts and timegraphs | - complete, read and interpret information in tables, including timetables | - interpret and construct pie charts and line graphs and use these to solve problems |
|  |  | Summer 3 | Summer 5 | Summer 5 | Spring 5 | Spring 6 |
| SOLVING STATISTICAL PROBLEMS |  | - ask and answer simple questions | - solve one-step and two-step questions | - solve comparison, sum and | - solve comparison, sum and | - calculate and interpret the |


|  |  | by counting the number of objects in each category and sorting the categories by quantity <br> - ask and answer questions about totaling and comparing categorical data | [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables | difference problems using information presented in bar charts, pictograms, tablesand other graphs | difference problems using information presentedina linegraph | mean as an average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Summer 3 | Summer 5 | Summer 5 | Spring 5 | Spring 6 |

