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| **Year 2: addition and subtraction** | | | | |
| End of year expectations  End of year 2 addition and subtraction:  Pupils should be taught to:   * solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods * recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 * 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 * show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot * recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. | | | | Develop links with:   * Multiplication and division * Measurement * Statistics * Geometry |
| End of year 1 addition and subtraction  Pupils should be taught to:  read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs   represent and use number bonds and related subtraction facts within 20   add and subtract one-digit and two-digit numbers to 20, including zero   solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = - 9. | | | End of year 1 Number and place value  Pupils should be taught to:  count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number  count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens  given a number, identify one more and one less  identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least  read and write numbers from 1 to 20 in numerals and words.. | |
| **Autumn** | **Spring** | **Summer** | | |
|  |  | Pupils should be taught to:   * solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods * recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 * 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 * show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot * recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. | | |

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| **Year 2: multiplication and division** | | | | |
| End of year expectations  Pupils should be taught to:   * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers * calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs * show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot * solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | | | | Develop links with   * Addition and subtraction * Measurement * Fractions |
| End of year 1 knowledge: multiplication and division  Pupils should be taught to:  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. | | End of year 1 Number and place value  Pupils should be taught to:  count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number  count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens  given a number, identify one more and one less  identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least   * read and write numbers from 1 to 20 in numerals and words.. | | |
| Autumn | Spring | | Summer | |
|  |  | | Pupils should be taught to:   * recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers * calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs * show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot * solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | |

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| **Year 2 Fractions** | | | |
| End of year expectations  Pupils should be taught to:   * recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity * write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. | | | Develop links with:   * Number and place value * Multiplication and division * Measurement * Geometry |
| End of year 1 knowledge: fractions  Pupils should be taught to:  recognise, find and name a half as one of two equal parts of an object, shape or quantity  recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. | | | |
| Autumn | Spring | Summer | |
|  |  | Pupils should be taught to:   * recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity * write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. | |

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| **Year 2 Measurement** | | | |
| End of year expectations  Pupils should be taught to:  choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels  compare and order lengths, mass, volume/capacity and record the results using >, < and =  recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value  find different combinations of coins that equal the same amounts of money  solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change  compare and sequence intervals of time  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.   * Know the number of minutes in an hour and the number of hours in a day | | | Develop links with:   * Multiplication and division * Fractions * Geometry |
| End of year 1 knowledge  Pupils should be taught to:  compare, describe and solve practical problems for:  lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)  mass or weight (e.g. heavy/light, heavier than, lighter than)  capacity/volume (full/empty, more than, less than, quarter)  time (quicker, slower, earlier, later)  measure and begin to record the following:  lengths and heights  mass/weight  capacity and volume  time (hours, minutes, seconds)  recognise and know the value of different denominations of coins and notes  sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening   recognise and use language relating to dates, including days of the week, weeks, months and years   tell the time to the hour and half past the hour and draw the hands on a clock face to show these times | | | |
| Autumn | Spring | Summer | |
|  |  | Pupils should be taught to:  choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels  compare and order lengths, mass, volume/capacity and record the results using >, < and =  recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value  find different combinations of coins that equal the same amounts of money  solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change  compare and sequence intervals of time  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.   * Know the number of minutes in an hour and the number of hours in a day | |

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| **Year 2 Geometry** | | | |
| End of year expectations  End of year 2 knowledge: Geometry properties of shapes  Pupils should be taught to:   * identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line * identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces * identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid * compare and sort common 2-D and 3-D shapes and everyday objects.   End of year 2 knowledge: Geometry position and direction  Pupils should be taught to:   * order and arrange combinations of mathematical objects in patterns * 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 anti-clockwise). | | | Develop links with:   * Number and place value * Multiplication and division * Fractions * Geometry |
| End of year 1 knowledge: Geometry properties of shapes  Pupils should be taught to:  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). .  End of year 1 knowledge: Geometry position and direction  Pupils should be taught to:  describe position, directions and movements, including half, quarter and three-quarter turns. | | | |
| Autumn | Spring | Summer | |
|  |  | End of year 2 knowledge: Geometry properties of shapes  Pupils should be taught to:   * identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line * identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces * identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid * compare and sort common 2-D and 3-D shapes and everyday objects.   End of year 2 knowledge: Geometry position and direction  Pupils should be taught to:   * order and arrange combinations of mathematical objects in patterns * 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 anti-clockwise). | |