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|  | **Week 1** | **Week 2** | | | **Week 3** | **Week 4** | | **Week 5** | | | **Week 6** | **Week 7** |
| **Autumn**  **1** | Number – Place Value | | | | | Number – addition and subtraction | | | | | Number – multiplication and division | |
| **Autumn 2** | Number – Multiplication and division | | | Problem solving using 4 operations | | | Graphs | | | | Assess and review | Solving problems using 4 number operations |
| **Spring 1** | Number - Fractions | | | | | | | | | Assess & review | Solving problems using 4 ops and fractions |  |
| **Spring 2** | Number - Decimals | | | | | | Percentages | | Assess & review | | Measuring angles |  |
| **Summer 1** | Angles | | Position and movement | | | | Measures – length, mass | | | | Assess and review |  |
| **Summer 2** | Time | Temperature | Perimeter | | | | Area | Volume | | | Assess and review |  |

Year 5 Long Term Overview

Autumn 1

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** |
| Place Value | | | Addition and subtraction – whole numbers | | Multiplication and division – whole numbers | |
| I can read and write numbers to 1,000,000 and know the value of the digits.  I can count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000  I can compare numbers to 1,000,000.  I can round six digit+ numbers to the nearest 10/100/1000/10,000/ 100,000.  I can multiply and divide whole numbers by 10, 100 and 1000.  I can interpret negative numbers in context, counting forwards and backwards with positive and negative whole number including through zero.  I can read roman numerals to 1000 (M) and recognise years written in Roman numerals.  I can solve number and practical problems that involve all of the above. | | | I can add whole numbers with more than 4 digit  I can subtract whole numbers with more than 4 digits  I can solve multi step problems involving addition and subtraction using larger integers.  I can use rounding to estimate and check answers to calculation  I can add and subtract 2 digit numbers mentally  I can add or subtract numbers mentally with increasingly larger numbers (3 digits) | | I can identify common factors and find factor pairs.  I can find the common factors of two numbers.  I can find multiples of a number.  I can find common multiples of 2 or more numbers.  I can use vocabulary of prime numbers and recall prime numbers up to19.  I can recognise and use squared and cubed numbers using the correct notation.  I know the square roots of numbers up to 12 x 12.  I can multiply a number by 10, 100 and 1000  I can multiply a two/three/four digit number by a single digit  I can multiply a two/three digit number by a two digit number. | |
| **Show me…**  …using the digit cards 0-9, make the largest number possible and the smallest number possible. How do you know that these are the largest and smallest numbers?...  Show me the next in the sequence, 5, 4, 3, 2, 1, …, -2, … and 8, 6, 4, 2, 0, …, -4, …  **Convince me…**  …using the digits 0-9 I can make any number up to 1000000. Am I correct?...  …Oscar says the number 345050 is three hundred and forty five thousand and five. Convince me if he is wrong or correct…  Simon says he can order the following numbers by only looking at the first 3 digits. Is he correct? 125161, 128324, 126743, 125382, 127942…  **Same/Different…**  …289636, 299636, 300636, 301636, 302636…  …18700, 18800, 18900, 18910…  **ASN…**  …when I count in 10’s I will say the number 12300…  Anna is counting down from 11 in fives. Does she say -11? Explain your reasoning. | | | **Show me…**  …which of these questions are easy/hard?  213323 – 10 =  512893 + 300 =  819354 – 200 =  319954 + 100 = …  …If 2541 is the answer, what is the question?... Create 3 addition/subtraction questions. Did you use a strategy? Explain it?  **Convince me…**  …Rachel has £10 and spends £6.49 at the shop. Would you use column subtraction to work out the answer? Convince me why not…  …a five digit number and a four digit number have a difference of 4365. Give 3 possible pairs of numbers…  **ASN…**  …are these true or false? 8.7 + 0.4 = 8.11  6.1 – 0.9 = 5.2… | | **Show me…**  …5 x and ÷ facts that use 48…  …if I know that 8 x 36 = 288, I also know that 8 x 12 x 3 = 288 and 8 x 6 x 6 = 288. If you know 9 x 24 = 216, 2hat else do you know?...  …how you can use 10 x 7 to help you find the 9th multiple of 7…  …if you know 2 x 144 = 288, what 4 x 144 would be…  **Convince me…**  If you know that 40 cupcakes costs £3.60 convince me how you would work out how many 20, 80 and 10 would cost…  …to multiply by 10 you add a nought, to multiply by 100 you add two noughts. Do you agree…convince me!  **Same/Different…**  …2 x 11, 2 x 12, 2 x 13, 4 x 11, 4 x 12, 4 x 13… (use one to find the answers to the others.)  …10 times a number is 4350, what is 9 times the same number? Explain your working**…**  **ASN…**  …A number multiplied gets bigger...  …A number divided gets smaller…  …a square number has an even number of factors…  …square and cubed numbers are always positive… | |

Autumn 2

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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** | **Week 7** |
| Multiplication and division – whole numbers | | Solving word problems using 4 number operations – whole numbers | Graphs | | Revise, review and assess. | Solving problems using 4 operations. (whole number) |
| I can multiply a two/three/four digit number by a one digit number using a formal written method.  I can multiply a four digit number by a two digit number using formal written method.  I can divide a number by 10, 100 or 1000.  I can divide a two/three/four digit number by a one digit number using a formal written method where there are no remainders.  I can divide a two/three/four digit number by a one digit number where the answer has remainders.  I can multiply and divide using mental methods. | | I can solve multi step problems involving all four operations using larger integers. | I can complete, read and interpret information in tables, including timetables. e.g. a conversion table  I can solve comparison, sum and difference problems using information presented in a line graph.  I can use mode and range to compare two sets of data.  I can design a survey to capture data from more than one source.  I can choose a suitable class interval when collecting or representing data .e.g. The number of hours spent using computers | |  | I can solve multi step problems involving all four operations using larger integers. |
| **Show me…**  …Mo Farah runs 135 miles a week. How far does he run each day?...what happens if he has 1 rest day a week? 2 rest days a week?...  **Convince me…**  …47… x 23 = 10902. Mr Slater thinks a 4 should be placed in the space. Do you agree? Convince me!...  …convince me why 6 is a common factor of 18 and 24…  …factors come in pairs, so all numbers have an even number of factors. Do you agree? Convince me…  **Problem Solving…**  Sally is thinking of a number. She says ‘My number is a multiple of 3. It is also 3 less than a multiple of 4. Find three different numbers that could be Sally’s number. | | **Problem solving…**  Luke and Nigel have £57.40 between them. Luke has £4.80 more than Nigel. How much do they each have? | **Show me…**  ... some data that is discrete/categorical/continuous…  ... which chart would be best to display:  - A person’s height from age 0 to age 20. - A person’s pulse rate during the data. - A class’ favourite colour. - The pupils’ favourite music from a year group at school. - The sales of ice creams at a shop over a month in July. - Votes for all the celebrities in a tv talent contest for one show.  **Convince me…**  ... that a line graph is the best to use for this data (temperature each month)…  **Same/Different…**  ... bar chart and frequency diagram… ... discrete and continuous data… ... bar chart and line graph…  **ASN…**  ... when drawing a bar chart you want to make the step size as small as possible… ... bar charts have bars that do not touch… ... all data is discrete once we measure it… | |  | See previous learning. |

Spring 1

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| --- | --- | --- | --- | --- | --- |
| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| Understanding fractions  I can convert mixed number and improper fractions  Adding and subtracting fractions with the same denominator | | | Multiplying fractions by a whole number | Review and assess. | Problem solving using fractions and 4 number operations. |
| I can read, order and compare fractions.  I can compare and order fractions whose denominators are all multiples of the same number.  I can identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths  I can convert simple improper fractions to mixed number (e.g. 7/2 – 3 1/2)  I can convert mixed numbers and improper fractions from one form to another and write the mathematical statement. e.g. 2/5 + 4/5 = 6/5 = 1 1/5  I can add fractions with the same denominator and multiples of the same number. e.g. 5/7 + 4/7 = 9/7 or 1 and 2/7  I can subtract fractions with the same denominator and multiples of the same number. e.g. 5/7 - 3/14 = 10/14 – 3/14 = 7/14 or 1/2 | | | I can multiply proper fractions and mixed numbers by whole numbers supported by materials and diagrams e.g. 3/4 x 3 = 9/4 or 2 and 1/4 or  3 and 1/4 x 3 = 9 and 3/4 |  | I can solve multi step problems involving all four operations using larger integers.  I can solve problems involving fractions and finding fractions of an amount. |
| **Show me…**  …improper fractions and mixed number fraction for the same amount with a diagram…  ….how you can use arrays to add/subtract fractions with the same denominator…  ….how you can multiply 3/4 x 12  ….how you can multiply 11/4 x 12  **Convince me…**  …1/5 + 1/10 = 3/10  …that if 1/2 a bar of chocolate is eaten one day then 1/3 of a bar the next day then there will be 1/6 of a bar left.  **Same/Different…**  ... 3/12, 25/100, 4/16, ¼  …1 2/10, 4/5, 20/25, 2 5/18  **ASN…**  …when adding or subtracting fractions you need to add both the denominator and the numerator  …the denominator needs to be the same when adding or subtracting fractions | | | | | |

Spring 2

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| --- | --- | --- | --- | --- | --- | --- |
| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | | **Week 6** |
| Read, write, compare and order decimals  Writing fractions as decimals.  Adding and subtracting decimals.  Rounding decimals. | | | Percentages | Assess and review | | Measuring angles |
| I can read and write decimals up to 3 d.p.  I can compare decimals up to 3 d.p.  I can order decimals up to 3 d.p.  I can write common fractions as decimals.  I can add decimals  I can subtract decimals.  I can round decimals with 2 d.p. to the nearest whole number or to one d.p.  I can solve problems involving decimals up to 3 d.p | | | I can recognise the per cent symbol (%)  I understand that per cent means out of 100.  I can interpret a percentage as a fraction of an amount.  I can interpret at percentage as a decimal equivalent. |  | | I can identify and describe acute angles, right angles, obtuse angles and reflex angles.  I can read a protractor accurately.  I can measure given angles using a protractor. |
| **Show me…**  ... a number that rounds to 2.6 when rounded to 1 decimal place…  ... a possible value for ? in  5.4 < ? < 5.51  .. a number between 0.12 and 0.17. Which of the two numbers is it closer to? How do you know?  **Convince me…**  .... that 0.35 is greater than 0.035?...  ...that these numbers are in ascending order: 3.41, 3.419, 3.5, 3.507, 3.52…  ...why might it not be possible to identify the first three places in a long jump competition if measurements were taken in metres to one decimal place…  **Same/Different…**  **…**5.67, 5.69, 5.73, 5.64…  …72.344 and 72.346…  **ASN…**  …3.5 is closer to 4 than it is to 3…  …0 is greater than 9, so 0.10 is greater than 0.9… | | | **Show me…**  …the fraction, decimal and % of an amount…  **Convince me…**  ... 0.1 = 10%  **Same/Different…**  0.2, 20%, 2/10, 2.1  **ASN**…  ... percentages are fractions with a denominator of 100 ... every percentage can be written as a fraction ... every fraction can be written as a percentage |  | **Show me…**  ... a right angle… ... an acute angle… ... an obtuse angle… ... what you think 40/60/100/150 degrees looks like… ... an angle larger than 140 degrees but smaller than 180 degrees… ... a reflex angle…  **Convince me…**  ... that a triangle cannot have 2 obtuse angles… ... that quadrilaterals have 360 degrees… ... that 4 right angles make 360 degrees…  **ASN…**  …Reflex angles always have an acute angle on their 'other side'…  …Shapes with all right angles are regular… | |

Summer 1

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Week 1** | **Week 2** | | **Week 3** | | **Week 4** | **Week 5** | **Week 6** |
| Drawing angles | Solving problems involving angles. | | Position and movement | | Length | Mass | Assess and review |
| I can read a protractor accurately.  I can draw given angles using a protractor to the closets 1 degree of accuracy. | I can estimate and find unknown angles on a straight line  I can estimate and find unknown angles around a point.  I can find unknown angles in squares and rectangles.  I can investigate angles with regular polygons. | | I can write the co-ordinates of points within the first quadrant.  I can describe translations.  I can find the position of a shape after translations.  I can describe reflections.  I can find the position of a shape after reflection. | | I can measure accurately to the nearest mm.  I can convert measures of length between metric units.  I can solve problems involving length.  I can understand and use approximate equivalences between imperial and metric units e.g. 8km = 5 miles, 1 inch = 2.5 cm, 1 foot = 30cm, 1 yard = 90cm | I can measure accurately to the nearest g.  I can convert measurements of mass between metric units.  I can solve problems involving mass.  I can understand and use approximate equivalences imperial/metric units e.g. 1kg = 2.2lb, 225g = 8oz. | (Or continue with measures and review after you have finished with them.) |
| **Show me…**  ... a right angle… ... an acute angle… ... an obtuse angle… ... what you think 40/60/100/150 degrees looks like… ... an angle larger than 140 degrees but smaller than 180 degrees… ... a reflex angle…  **Convince me…**  ... that a triangle cannot have 2 obtuse angles… ... that quadrilaterals have 360 degrees… ... that 4 right angles make 360 degrees…  **ASN…**  …Reflex angles always have an acute angle on their 'other side'…  …Shapes with all right angles are regular… | | **Show me…**  ... the line of reflection that was used to get this image…  ... how this shape was translated to get this image…  **Convince me…**  ... that the object is always the same size as the reflected image…  ... that the object is always the same size as the translated image…  ... that you can tell what the translation was from just one coordinate from the object and the image…  **Same/Different…**  …translate a shape and reflect the shape. Explain what’s the same and what’s different about the two transformed shapes…  **ASN…**  ... translated shapes will always rotate…  ... translated shapes must always be the same size and orientation... | | **Show me…**  …Two measures (one in mm and one in cm) then add and convert to one unit of measure... and another  …Two measures (one in g and one in Kg) then add to give answer using one unit of measure.  **Convince me…**  …Convince me quantities will always increase when using smaller units…  …Measures can be accurately measured in imperial or metric units…  …10 inches does not make 1 foot…  **Same/Different…**  pints, litres, cubic centimetres  **ASN…**  …Milli means a thousandth…  …Centi means a hundredth…  …Kilo means a thousand… | | | |

Summer 2

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| --- | --- | --- | --- | --- | --- |
| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| Time | Temperature | Finding the perimeter | Finding the area | Volume | Assess and review |
| I can accurately read the 24 and 12 hour clock.  I can solve problems involving converting between units of time. | I can read the thermometer accurately to the nearest degree.  I can read negative numbers on a scale.  I can find the difference between temperatures that are positive and negative. | I can find the perimeter of a figure.  I can use scaled diagrams to find the perimeter of a figure. | I can estimate the area of a figure.  I can find the area of a figure.  I can use scaled diagrams to find the area of a figure.  I can use variations of the formula a = l x b | I can estimate volume and capacity.  I can find and compare the volumes of solids.  I can find and compare the capacity of rectangular boxes.  I can convert units of volume between different metric units.  I can solve problems involving volume. |  |
| **Show me…**  ... a bus on this timetable that leaves before 7am… ... what time the 0815 bus gets to Crewe…  ... the last train I can catch to get back home to Torquay by 1800…  **Convince me…**  ... this bus is quicker than the one at 1805…  **ASN…**  ...timetables are always read vertically… | **Show me…**  ... how you would find the temperature in May from this graph?...  ... how you would find the difference between the temperature in June and in January using this graph?... ... how you would estimate the temperature in between Sep and Oct using this graph…  **Convince me…**  ... there are two ways to find out how many results were greater than 40 from this graph…  **ASN…**  ... line graphs are more useful than bar charts to read the temperature because they tell you values in between your data… | **Show me…**  …that you can use the formula to find area using any unit of measure…  **Convince me…**  …that the area of a 3cm by 2cm rectangle is 600mm2… | | **ASN…**  …The taller glass holds more drink.  …A cube-shaped box with (internal) sides of 10cm will hold a litre of water… | |