Year 5 and 6 long term plan



**Year 5 and 6 Long Term Plan**

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| **Term 1** | Week 2 – 5: Place Value  Week 6 – 7: Four Operations | | | | | | |
| **Term 2** | Week 1 – 3: Four Operations  Week 4: Prime Numbers (Year 5)  Week 5 and 6: Statistics | | | | | | |
| **Term 3** | Week 1 – 4: Fractions  Week 5 -6: Decimals | | | | | | |
| **Term 4** | Week 1 -2: Percentages  Week 3: Algebra and Ratio (Year 6)  Continue reviewing fractions, decimals and percentages (Year 5)  Week 4 – 5: Geometry – Angles and Shape  Week 6: Geometry – Position and Direction | | | | | | |
| **Term 5** | Week 1: Converting Units  Week 2: Area and Perimeter  Week 3: Volume  Week 4 – 5: Measures (Y5)  SATs (Year 6)  Week 6: Fractions, Decimals and Percentages | | | | | | |
| **Term 6** | Week 1 – 2: Fractions, Decimals and Percentages  Week 3 – 6: Four Operations | | | | | | |
| **Term 1 – 7 weeks** | | | | | | | |
| **Learning Objectives** | | | | | | | |
| **Place Value** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | | **Year 6 Objective** |
| **Read, write, order and compare numbers to at least 1000000 and determine the value of each digit. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.**    **Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.**    **Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. Use negative numbers in context, and calculate intervals across zero.**    **Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 Round any whole number to a required degree of accuracy.**    **Solve number problems and practical problems that involve all of the above. Solve number and practical problems that involve all of the above.**    **Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.**    **Read, write, order and compare numbers with up to three decimal places. Identify the value of each digit in numbers given to three decimal places and multiply numbers by 10, 100 and 1000 giving answers up to 3dp.**    **Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.**    **Round decimals with two decimal places to the nearest whole number and to one decimal place.**    **Solve problems involving number up to three decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000** | | | Identify, represent and estimate numbers using different representations.  Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.  Find 0.01, 0.1, 1, 10, 100 and other powers of 10 more or less than a given number.  Count forwards or backwards in steps of powers of 10 for any given number up to 1000000 and in decimal steps.  Continue to order temperatures, including those below zero.  Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.  Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000.  Describe and extend number sequences including those with multiplication/division steps and where the step size is a decimal.  Solve number and practical problems that involve all of the above.  Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.  Read, write, order and compare numbers with up to three decimal places and identify the value of each digit.  Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.  Round decimals with two decimal places to the nearest whole number and to one decimal place.  Solve problems involving number up to three decimal places. | | | | Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.  Order and compare numbers including integers, decimals and negative numbers.  Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number.  Count forwards or backwards in steps of integers, decimals, powers of 10.  Use negative numbers in context, and calculate intervals across zero.  Round any whole number to a required degree of accuracy.  Describe and extend number sequences including those with multiplication/division steps, inconsistent steps, alternating steps and those where the step size is a decimal.  Solve number and practical problems that involve all of the above.  Identify the value of each digit to three decimal places.  Identify, represent and estimate numbers on a number line.  Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.  Round decimals with three-decimal places to the nearest whole number or one or two decimal places.  Solve number and practical problems that involve all of the above.  Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. |
| **Four Operations** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | | **Year 6 Objective** |
| **Add and subtract numbers mentally with increasingly large numbers. Perform mental calculations, including with mixed operations and large numbers. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)**    **Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy. Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why. Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.** | | | Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).  Recall and use addition and subtraction facts for 1 and 10 (with decimal numbers to 1 decimal place).  Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places)  Add and subtract numbers mentally with increasingly large numbers and decimals to two decimal places.  Add and subtract whole numbers with more than 4 digits and decimals with two decimal places,, including using formal written methods (columnar addition and subtraction).  Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.  Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why. | | | | Choose an appropriate strategy to solve a calculation based upon the numbers involved.  Recall and use addition and subtraction facts for 1 (with decimals to two-decimal places).  Perform mental calculations including with mixed operations and large numbers and decimals.  Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).  Calculate differences in temperature, including those that involved a positive and negative temperature.  Solve problems involving all four operations, including those with missing numbers.  Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.  Use knowledge of the order of operations to carry out calculations.  Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why. |
| **Resources** | | | | **Vocabulary** | | | |
| * Number line * Counters * Place Value Grids * Numicon * Crocodiles (<>=\_ * Number lines (up to 1 – 100) * 100 square * Bar model | | | | * Multiples * More than, less than * Negative numbers. * Column * Hundreds, tens, units. * Rounding * Roman Numerals * Decimals * Addition (and related words e.g. add, more than) * Subtraction (and related words e.g. take away, less than) * Multiplication (and related words e.g. lots of, groups of) * Division (and related words e.g. sharing) * Commutative * Inverse | | | |
| **Approaches To Assessment** | | | |
| * Greater depth questions * Twinkl assessments * Teaching for mastery: Assessment for mastery and greater depth. * Starters (revisiting previous work) * Review – Last lesson, last week, last month, last term. * SATs Assessments | | | |
| **Term 2 – 7 weeks** | | | | | | | |
| **Learning Objectives** | | | | | | | |
| **Four Operations cont.** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | | **Year 6 Objective** |
| **Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers by 10, 100 and 1000. Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. Multiply multi-digit number up to 4 digits by a 2 digit number using the formal written method of long multiplication.**    **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. Divide numbers up to 4 digits by a 2 digit 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. Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division, interpreting remainders according to context.**    **Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Identify common factors, common multiples and prime numbers. 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. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. Solve problems involving addition, subtraction, multiplication and division. Use their knowledge of the order of operations to carry out calculations involving the four operations.** | | | Use partitioning to double or halve any number, including decimals to two-decimal places.  Multiply and divide numbers mentally drawing upon known facts.  Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).  Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.  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 multiplication and division including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.  Use estimation/inverse to check answer to calculations: determine, in the context of a problem, an appropriate degree of accuracy.  Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.  Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) | | | | Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).  Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3-decimal places.  Use partitioning to double or halve any number.  Perform mental calculations, including with mixed operations and large numbers.  Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.  Multiply one-digit numbers with up to 2-decimal places by whole numbers.  Divide numbers up to 4 digits by a 2 digit 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.  Use written division methods in cases where the answer has up to two decimal places.  Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.  Use knowledge of the order of operations to carry out calculations.  Solve problems involving all four of the operations. |
| **Prime Numbers** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | **Year 6 Objective** | |
| **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** | | | 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. | | | Identify common factors, common multiples and prime numbers. | |
| **Statistics** | | | | | | | |
| **WRH Objectives** | | | **Year 5 Objectives** | | | **Year 6 Objectives** | |
| **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**    **Complete, read and interpret information in tables including timetables. Calculate the mean as an average.** | | | Complete and interpret information is a variety of sorting diagrams (including those used to sort properties of numbers and shape).  Solve comparison, sum and difference problems using information presented in all types of graph, including a line graph.  Complete, read and interpret information in tables including timetables.  Calculate and interpret the mode, median and range. | | | Continue to complete and interpret information is a variety of sorting diagrams (including those used to sort properties of numbers and shape).  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  Calculate and interpret the mean as average. | |
| **Resources** | | | | **Vocabulary** | | | |
| * Number line * Counters * Place Value Grids * Numicon * Crocodiles (<>=\_ * Number lines (up to 1 – 100) * 100 square * Bar model * String (line) /Paper plates (pie) to create 3D graphs. | | | | * Multiplication (and related words e.g. lots of, groups of) * Division (and related words e.g. sharing) * Column method * Short division * Factor pairs * Multiples * Commutative Law * Prime Number * Statistics * Mode/Median/Range/Mean * Line graph * Pie charts | | | |
| **Approaches To Assessment** | | | |
| * Greater depth questions * Twinkl assessments * Teaching for mastery: Assessment for mastery and greater depth. * Starters (revisiting previous work) * Review – Last lesson, last week, last month, last term. * White Rose Hub (Autumn) | | | |
| **Term 3 – 6 weeks** | | | | | | | |
| **Learning Objectives** | | | | | | | |
| **Fractions** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | | **Year 6 Objective** |
| **Compare and order fractions whose denominators are multiples of the same number. Compare and order fractions, including fractions > 1 Generate and describe linear number sequences (with fractions)**    **Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. 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 2 5 + 4 5 = 6 5 = 1 1 5 ]**    **Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.**    **Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide proper fractions by whole numbers [for example 𝟏 𝟑 ÷ 2 = 𝟏 𝟔 ]**    **Read and write decimal numbers as fractions [ for example 0.71 = 71 100 ] Associate a fraction with division and calculate decimal fraction equivalents [ for example, 0.375] for a simple fraction [for example 𝟑 𝟖 ]**    **Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.** | | | Compare and order fractions whose denominators are 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.  Write mathematical statements >1 as a mixed number [for example 𝟐 𝟓 + 𝟒 𝟓 = 𝟔 𝟓 = 1 𝟏 𝟓 ]  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.  Read and write decimal numbers as fractions [ eg 0.71 = 𝟕𝟏 𝟏𝟎𝟎 ]  Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. | | | | Compare and order fractions, including fractions > 1  Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.  Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.  Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.  Multiply simple pairs of proper fractions, writing the answer in its simplest form.  Divide proper fractions by whole numbers [for example 𝟏 𝟑 ÷ 2 = 𝟏 𝟔 ]  Associate a fraction with division and calculate decimal fraction equivalents [ for example, 0.375] for a simple fraction [for example 𝟑 𝟖 ].  Solve problems including fractions, answers which require rounding and involving the calculation of percentages and the use of percentages for comparison. |
| **Decimals** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | **Year 6 Objective** | |
| **Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.**    **Multiply one digit numbers with up to 2dp by whole numbers.**    **Use written division methods in cases where the answer has up to two decimal places.** | | | Multiply/divide whole numbers and decimals by 10, 100 and 1000. | | | Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.    Multiply one digit numbers with up to 2dp by whole numbers.    Use written division methods in cases where the answer has up to two decimal places. | |
| **Resources** | | | | **Vocabulary** | | | |
| * Fraction walls * Counting objects for finding fractions of amounts. * Fraction cubes. * Straws (cut up to show smaller than 1) * Number lines. | | | | * Numerator/Denominator * Equivalent * Compare and order * Multiples * Mixed fractions/Improper fractions * Scaling * Hundredths/thousandths. | | | |
| **Approaches To Assessment** | | | |
| * Greater depth questions * Twinkl assessments * Teaching for mastery: Assessment for mastery and greater depth. * Starters (revisiting previous work) * Review – Last lesson, last week, last month, last term. * SATs Assessments | | | |
| **Term 4 – 6 weeks** | | | | | | | |
| **Learning Objectives** | | | | | | | |
| **Percentages** | | | | | | | |
| **WRH Objective** | | | **Year 5 Objective** | | | | **Year 6 Objective** |
| **Recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal.**    **Solve problems which require knowing percentage and decimal equivalents of 1 2 , 1 4 , 1 5 , 2 5 , 4 5**  **and those fractions with a denominator of a multiple of 10 or 25.**    **Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.**    **Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.** | | | Recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal.  Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25. | | | | Find simple percentages of amounts.  Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.    Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. |
| **Algebra and Ratio (Year 6)** | | | | | | | |
| **WRH Objective** | | | **Year 6 Objective** | | | | |
| **Use simple formulae.**    **Generate and describe linear number sequences.**    **Express missing number problems algebraically**    **Find pairs of numbers that satisfy an equation with two unknowns.**    **Enumerate possibilities of a combination of two variables.**  **Not covered in the WRH objectives.** | | | Generate and describe linear number sequences.    Express missing number problems algebraically    Find pairs of numbers that satisfy an equation with two unknowns.    Enumerate possibilities of a combination of two variables.  Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts.  Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.  Solve problems involving similar shapes where the scale factor is known or can be found. | | | | |
| **Geometry – Angles and Properties of Shape** | | | | | | | |
| **WRH Objectives** | | | **Year 5 Objectives** | | | **Year 6 Objectives** | |
| **Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees Draw 2D shapes using given dimensions and angles.**    **Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.**    **Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles.**    **Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.**    **Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius**    **Solve problems involving similar shapes where the scale factor is known or can be found.** | | | Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.  Draw given angles and measure them in degrees.  Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o.  Identify 3D shapes, including cubes and other cuboids, from 2D representations.  Use the properties of rectangles to deduce related facts and find missing lengths and angles.  Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. | | | Draw 2D shapes using given dimensions and angles.  Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.  Recognise, describe and build simple 3-D shapes, including make nets.  Find unknown angles in any triangles, quadrilaterals and regular polygons.  Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius    Solve problems involving similar shapes where the scale factor is known or can be found. | |
| **Geometry – Position and Direction** | | | | | | | |
| **WRH Objectives** | | | **Year 5 Objectives** | | | **Year 6 Objectives** | |
| **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).**    **Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.** | | | 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 first quadrants of a co-ordinates grid.  Plot specified points and complete shapes. | | | Describe positions on the full coordinate grid (all four quadrants).    Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. | |
| **Resources** | | | | **Vocabulary** | | | |
| * Straws (to show less than one) * Bar charts * 100 squares * Protractors (of various sizes) * Variety of regular and irregular shapes to measure. * Circles * Tracing paper | | | | * Percentage * Decimal * Out of 100. * Fractions * Multiples * Algebra * Formulae * Angles (acute, obtuse, 180, reflex, 360) * 2D shapes * Turn * Radius, diameter, circumference. * Reflection/translation * Co-ordinates | | | |
| **Approaches To Assessment** | | | |
| * Greater depth questions * Twinkl assessments * Teaching for mastery: Assessment for mastery and greater depth. * Starters (revisiting previous work) * Review – Last lesson, last week, last month, last term. * SATs Assessments * White Rose Hub (Spring) | | | |
| **Term 5– 7 weeks** | | | | | | | |
| **Learning Objectives** | | | | | | | |
| **Converting Units** | | | | | | | |
| **WRH Objectives** | | **Year 5 Objective** | | | **Year 6 Objective** | | |
| **Convert between different units of metric measure (, km and m; cm and m; cm and mm; g and kg; l and ml) Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to 3dp.**    **Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Convert between miles and kilometres.**    **Solve problems involving converting between units of time Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.** | | Convert between different units of metric measure (for example, km and m; cm and m; cm and mm).  Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.  Continue to read, write & convert time between analogue and digital 12 and 14 hour clocks.  Solve problems involving converting between units of time. | | | Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to 3dp.  Convert between miles and kilometres.  Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. | | |
| **Area and Perimeter** | | | | | | | |
| **WRH Objective** | | **Year 5 Objective** | | | **Year 6 Objective** | | |
| **Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate the area of parallelograms and triangles.**    **Calculate and compare the area of rectangles (including squares), and including using standard units, cm2,m2 estimate the area of irregular shapes. Recognise that shapes with the same areas can have different perimeters and vice versa.** | | Measure and calculate the perimeter of composite rectilinear shapes in cm and m.  Calculate and compare the area of rectangles (including squares), and including using standard units, cm2,m2 estimate the area of irregular shapes. | | | Calculate the area of parallelograms and triangles.  Recognise that shapes with the same areas can have different perimeters and vice versa. | | |
| **Volume** | | | | | | | |
| **WRH Objective** | | **Year 5 Objective** | | | **Year 6 Objective** | | |
| **Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3)**    **Use all four operations to solve problems involving measure Recognise when it is possible to use formulae for area and volume of shapes.** | | Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] | | | Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3)  Use all four operations to solve problems involving measure Recognise when it is possible to use formulae for area and volume of shapes. | | |
| **Resources** | | | | **Vocabulary** | | | |
| * Measuring equipment. * Conversion graphs * Rulers * Containers for measuring volume e.g. jugs. | | | | * Units of measurement e.g. kilos, litres, cm etc. * Converting * Area * Perimeter * Volume * Capacity * Cm3/m3 | | | |
| **Approaches To Assessment** | | | |
| * Greater depth questions * Twinkl assessments * Teaching for mastery: Assessment for mastery and greater depth. * Starters (revisiting previous work) * Review – Last lesson, last week, last month, last term. * SATs Assessments | | | |
| **Term 6 – 7 weeks** | | | | | | | |
| **Learning Objectives** | | | | | | | |
| **Revisit Fractions, Decimals and Percentages** | | | | | | | |
| **WRH Objectives** | | **Year 5 Objectives** | | | **Year 6 Objectives** | | |
| **Compare and order fractions whose denominators are multiples of the same number. Compare and order fractions, including fractions > 1 Generate and describe linear number sequences (with fractions)**    **Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. 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 2 5 + 4 5 = 6 5 = 1 1 5 ]**    **Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.**    **Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide proper fractions by whole numbers [for example 𝟏 𝟑 ÷ 2 = 𝟏 𝟔 ]**    **Read and write decimal numbers as fractions [ for example 0.71 = 71 100 ] Associate a fraction with division and calculate decimal fraction equivalents [ for example, 0.375] for a simple fraction [for example 𝟑 𝟖 ]**    **Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.**  **Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.**    **Multiply one digit numbers with up to 2dp by whole numbers.**    **Use written division methods in cases where the answer has up to two decimal places.**  **Recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal.**    **Solve problems which require knowing percentage and decimal equivalents of 1 2 , 1 4 , 1 5 , 2 5 , 4 5**  **and those fractions with a denominator of a multiple of 10 or 25.**    **Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.**    **Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.** | | Compare and order fractions whose denominators are multiples of the same number.  Count on and back in mixed number steps such as 1 ½.  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.  Write mathematical statements >1 as a mixed number [for example 𝟐 𝟓 + 𝟒 𝟓 = 𝟔 𝟓 = 1 𝟏 𝟓 ]  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.  Read and write decimal numbers as fractions [ eg 0.71 = 𝟕𝟏 𝟏𝟎𝟎 ]  Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.  Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.  Multiply/divide whole numbers and decimals by 10, 100 and 1000.  Recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per hundred’, and write percentages as a fraction with denominator 100, and as a decimal.    Solve problems which require knowing percentage and decimal equivalents of 1 2 , 1 4 , 1 5 , 2 5 , 4 5  and those fractions with a denominator of a multiple of 10 or 25. | | | Compare and order fractions, including fractions > 1  Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.  Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.  Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide proper fractions by whole numbers [for example 𝟏 𝟑 ÷ 2 = 𝟏 𝟔 ]  Associate a fraction with division and calculate decimal fraction equivalents [ for example, 0.375] for a simple fraction [for example 𝟑 𝟖 ].  Solve problems including fractions, answers which require rounding and involving the calculation of percentages and the use of percentages for comparison.  Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.    Multiply one digit numbers with up to 2dp by whole numbers.    Use written division methods in cases where the answer has up to two decimal places.  Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.  Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. | | |
| **Revisit Four Operations** | | | | | | | |
| **WRH Objectives** | | **Year 5 Objectives** | | | **Year 6 Objectives** | | |
| **Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers by 10, 100 and 1000. Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers. Multiply multi-digit number up to 4 digits by a 2 digit number using the formal written method of long multiplication.**    **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. Divide numbers up to 4 digits by a 2 digit 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. Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division, interpreting remainders according to context.**    **Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Identify common factors, common multiples and prime numbers. 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. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. Solve problems involving addition, subtraction, multiplication and division. Use their knowledge of the order of operations to carry out calculations involving the four operations.** | | Use partitioning to double or halve any number, including decimals to two-decimal places.  Multiply and divide numbers mentally drawing upon known facts.  Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).  Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.  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 multiplication and division including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.  Use estimation/inverse to check answer to calculations: determine, in the context of a problem, an appropriate degree of accuracy.  Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.  Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3) | | | Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).  Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3-decimal places.  Use partitioning to double or halve any number.  Perform mental calculations, including with mixed operations and large numbers.  Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.  Multiply one-digit numbers with up to 2-decimal places by whole numbers.  Divide numbers up to 4 digits by a 2 digit 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.  Use written division methods in cases where the answer has up to two decimal places.  Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.  Use knowledge of the order of operations to carry out calculations.  Solve problems involving all four of the operations. | | |
| **Resources and Vocabulary** | | | | **Approaches To Assessment** | | | |
| **See previous terms.**  Fractions (Term 3)  Addition and Subtraction (Term 1 and 2) | | | | * Greater depth questions * Teaching for mastery: Assessment for mastery and greater depth. * Review – Last lesson, last week, last month, last term. | | | |