

MATHS	2020-2021	Year 6 objective
<u>Autumn</u>	<u>Spring</u>	<u>Summer</u>
<p><u>Week 1</u> Read and write values to 10 million. Recap place value of digits Be able to compare and order values to 10 million Use negative numbers in context, and calculate intervals across zero. (KPI) Identify points on a number line Round any whole number to a required degree of accuracy. (KPI) Solve a problem involving negative numbers</p> <p><u>Week 2</u> Formal methods of multiplication –short and long (KPI) Chunking and short division -showing remainder as decimal Long division Problem solving involving multiplication and division</p> <p><u>Week 3</u> Solve x and / word problems identifying the correct operation and following KOMAC Formal addition and subtraction with decimal up to 3dpl. Solve multi-step addition and subtraction problems deciding which operations to use and why. Solve word problems involving all 4 opps. -including real life questions involving money. -Use an efficient method.</p> <p><u>Week 4</u> Show equivalent fractions including hundredths. Compare and order fractions and fractions >1 Simplify fractions with common factors Convert between mixed numbers and improper fractions and vice versa Add and subtract fractions with different denominators and mixed numbers –finding common denominators. Calculate fractions of amounts.</p>	<p><u>Week 1</u> Read, write, order and compare numbers up to MA – million, HA -10 million and determine the value of each digit. Be able to round any number to a required degree of accuracy.(KPI) Addition and subtraction -of amounts including beyond 4 digits and decimals -solve + and – multistep problems using efficient methods (KPI) -Checking with the inverse</p> <p><u>Week 2</u> Multiplication and division by 10, 100, 1000 with decimals Formal multiplication methods –short, long, and with decimals Interpret data shown on line graphs including calculating intermediate points. Calculate portion size in pie charts. Interpret pie charts and use to solve problems</p> <p><u>Week 3</u> Short division and interpret remainders in context. -show remainders as fractions and decimals Formal long division method Solve word problems involving all 4 opps. -identify how many steps are needed, -use efficient methods. -checking the answer by doing the inverse. Use knowledge of the order of operations to carry out calculations involving all 4 opps. BODMAS</p> <p><u>Week 4</u> Estimate and compare acute, obtuse and reflex angles. Measure and draw angles. Draw shapes accurately using given dimensions and angles. Find missing angles, and in shapes. Add and subtract fractions and mixed numbers.</p>	<p><u>SATS Practise -Week 1</u> 12 and 24 hour time. Calculate passage of time questions. Solve problems involving converting between units of time. Interpret timetables. Solve calendar problems. Equivalent fractions and simplifying fractions. Compare and order fractions by finding a common denominator, including fractions >1 Add and subtract fractions, multiply and divide Finding fractions and percentages of amounts and quantities (KPI) Be able to use an appropriate method Mental –FDP, Scale factor, conversions of units of time, Roman numerals</p> <p><u>Week 2</u> Recap formal methods of + and – with decimals Calculate volume of cuboids Solve explanation questions. Solve 2 step problems involving all 4 opps Answer problem questions which involve selecting data from a variety of tables. Calculate area and perimeter of simple and compound shapes, triangles and parallelograms Mental- negative numbers in context, algebra, missing angles</p> <p><u>Week 3</u> Multiplication and division written methods. Be able to round / down in real life. Properties of shape questions which involve drawing on grid paper. Recap drawing shapes with given requirements, reflection Use rulers and protractors to draw lines, angles and shapes accurately. Translations on a 4 quadrant grid.(KPI) Answer problems involving data shown on tables and</p>

<p><u>Week 5</u> Identify the place value of digits including decimal amounts. Recognise and use thousandths and relate them to tenths, hundredths etc. Read and write decimal numbers as fractions. -change fractions into decimals. -learn simple equivalent fractions including eighths To x and / amounts including decimals by 10, 100 and 1000 Compare and order numbers to 3dpls. Solve problems involving numbers to 3dpls.</p> <p><u>Week 6</u> Read and plot co-ordinates on a 4 quadrant grid Solve missing co-ordinates by using properties of shapes. Be able to identify, describe and represent the position of a shape following a translation. Translate simple shapes on the co-ordinate plane. Identify, describe and represent points and the position of a shape following a reflection. Reflect shapes over the axis Assessment week</p> <p><u>Week 7</u> Recap telling the time to nearest minute Convert between 12 and 24 hour clock Give correct time after the passage on an event Be able to interpret timetables Deduce information from line graphs involving time Identify common factors, common numbers and prime numbers.</p> <p><u>Week 8</u> Identify 3d shapes from 2d drawings. Recognise, describe and build 3d shapes including making nets Compare and classify geometric shapes based on their</p>	<p>(Be able to multiply proper fractions and mixed numbers by whole numbers.-year 5) Be able to multiply proper fractions and simplify answers</p> <p><u>Week 5</u> Estimate volumes by counting blocks. Use a formulae to calculate the volume of cubes and cuboids. Translate shapes on co-ordinate planes</p> <p><u>Week 6</u> Solve word problems involving all 4 opps. and money and measures –conversion of units, up to 3dpls Use simple formulae (KPI) Express missing numbers problems algebraically Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two possibilities Generate and describe linear number sequences. Be able to calculate the ‘nth’ term.</p> <p><u>Week 7</u> Read and plot co-ordinates on a 1 and 4 quadrant grid. Calculate missing co-ordinates. Equivalence of fractions , decimals and percentages. -calculate tricky fractions as decimals Read, write, order and compare decimals (KPI-Year 5) Round decimals, solve problems which require answers to be rounded to a specified degree of accuracy (KPI)</p> <p><u>Week 8</u> Formal methods -Short division, long multiplication and division -make estimates Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes -make estimates</p> <p><u>Week 9</u> Drawing shapes accurately including scale factors Compare and classify geometric shapes based on their properties and sizes and find unknown angles in triangles, quadrilaterals and regular polygons (KPI) Solve problems involving percentages, decimals and</p>	<p>charts. Volume Mental –recap place value, rounding, conversions between scales, calculate mean, Roman numerals –also sums with it</p> <p><u>Week 4</u> Properties of 2d and 3d shapes Reflect shapes over axis (KPI) Names parts of a circle, know diameter is twice radius Seesaw questions and sequences Interpretation of number lines and scales. -use negative numbers in context and calculate intervals across zero (KPI) Ratio and proportion Mental –common factors, multiples, primes, squares, cubes, (KPI), sorting diagrams, Algebra</p> <p><u>Week 5 –SAT Week</u></p> <p><u>Week 6</u> Puzzles and brainteasers Interpreting data, analysing findings</p> <p><u>Week 7</u> Long multiplication and division, including decimals – interpret remainders as fractions and decimals, rounding and rounding in real life (KPI) -also include missing digit sums -word problems involving more than 1 step Area and perimeter of compound shapes, triangles and parallelograms</p> <p><u>Week 8</u> Converting between improper fractions and mixed numbers. Compare and order amounts including mixed numbers and improper fractions. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Multiply pairs of proper fractions, writing the answer in it’s simplest form Divide proper fractions by whole numbers.</p> <p><u>Week 9</u> Perform mental calculations, including with mixed</p>
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<p>properties and sizes and find unknown angles. Use simple formulae understanding that 'n' can stand for a number. Express missing number problems algebraically. Generate and describe linear number sequences. Calculate 'nth' value of a sequence</p> <p><u>Week 9</u> Long multiplication method with whole and decimal values. Short division with remainders. -show remainders as fractions or decimals Long division method (KPI) Solve word problems involving all 4 operations. -make an estimate Solve real life word problems involving the need to round up or down.</p> <p><u>Week 10</u> Calculate the perimeter of irregular, regular shapes, rectangles Calculate the area of compound shapes Calculate areas of shapes using a formulae Calculate missing lengths. Calculate the volume of cubes and cuboids by counting cubes and using a formulae Investigate that some shapes can have the same area but different perimeters and vice versa.</p> <p><u>Week 11</u> Convert between FDP up to hundredths and mixed numbers (KPI) Calculate percentages of amounts. Solve problems involving calculation of percentages and the use of percentages for comparison. Be able to convert between different scales of measurement including imperial to metric -convert miles into km</p>	<p>fractions</p> <p><u>Week 10</u> Convert between different scales of measurement – decimals up to 3dpls. (KPI) Convert between miles and kilometres. Calculate areas of irregular shapes by counting squares. Calculate area of rectangles and compound shapes by using formulae. Calculate area of triangles and parallelograms. Calculate area of compound shapes including the need to calculate missing sides. Understand what ratio means and explain the notation. Be able to simplify ratios. Solve problems involving relative sizes of two quantities where missing values can be found by using integer multiplication and division facts (recipes!) Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p> <p><u>Week 11</u> Be able to draw and interpret data on line graphs and use these to solve problems. (KPI) Recap value of portion size. Be able to construct pie charts from given data.(KPI) Be able to solve problems interpreting data shown on pie charts. (KPI) -answer comparison questions (NB-one week in February will be assessment week)</p>	<p>operations and large numbers. (Add and subtract numbers mentally with increasingly large numbers (KPI) –Year 5) Solve problems involving scale factor Calculate and interpret the mean.</p> <p><u>Week 10</u> (Equivalences of FDP (KPI) –year 5) Recall and use equivalences between FDP including different contexts. Ratio and proportion- solve problems involving unequal sharing and grouping using knowledge of fractions and multiples (KPI) Using formulae for area and volume</p> <p><u>Week 11</u> Convert between different units of metric measure. Understand and use approximate equivalences between metric and imperial units. Solve problems involving the calculation and conversion of units of measurement up to 3dpls Convert between miles and kilometres (KPI) Missing angles –identify angles at a point, whole turn, straight line, other multiples of 90 degrees (where they meet at a point, on a straight line, and vertically opposite-year 5)</p> <p><u>Week 12</u> Use negative numbers in context, and calculate intervals across zero (KPI) Long multiplication and division BODMAS</p> <p><u>Week 13</u> Algebra-use simple formulae, find pairs of numbers that satisfy an equation with 2 unknowns, express missing number problems algebraically Rounding larger values. Solve problems which require answers to be rounded to a specified degree of accuracy.</p> <p><u>Week 14</u> Missing co-ordinates –with reflection, translation Construct pie charts</p>
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Week 12

Perform mental calculations including mixed operations and large numbers.

-BODMAS

Use rounding as an estimate or checking method.

Solve word problems involving all 4 oppos.

-identifying the correct operation

Solve multistep word problems.

-use estimation for checking

-BODMAS

Calculating the mean (KPI)

Week 13

Identify points on a number line including negative values and temperature scales.

Calculate intermediate points on line graphs.

Be able to solve comparison, sum and difference problems using information on line graphs.

Constructing pie charts

Week 14

Fractions with all 4 opps

-simplify answers

Name parts of a circle, know diameter is twice radius