Whiteshill Primary School
Maths Long Term Plan
Year 6

| Unit Focus | Lesson Objective | Subject Knowledge and Teaching Notes |
| :---: | :---: | :---: |
| Number and Place value | Read 7-digit numbers in words and write using numerals |  |
|  | Represent 7-digit numbers |  |
|  | Recognise the value of digits in 7-digit numbers |  |
|  | Partition 7-digit numbers in different ways |  |
|  | Identify 7-digit numbers on a number line | FIRST - Round numbers to 10,100 and 1000 (need an input on this so use a maths meeting next time) |
|  | Represent 7-digit numbers on a number line |  |
|  | Compare numbers up to 10,000,000 |  |
|  | Order numbers up to 10,000,000 |  |
|  | Round whole numbers to different degrees of accuracy |  |
|  | Understand and use negative numbers when working in context, such as temperature |  |
|  | Calculate intervals across zero |  |
| Decimals | Identify the value of digits in decimal numbers up to 3 decimal places |  |
|  | Multiply decimals (up to 3dp) by 10, 100 and 1000 |  |
|  | Divide decimals (up to 3dp) by 10, 100 and 1000 |  |
|  | Multiply decimals (1 and 2d.p.) by a 1-digit number |  |


| Addition, Subtraction, <br> Multiplication and <br> Division | Carry out addition calculations involving numbers up to 4 <br> digits using mental strategies | Carry out subtraction calculations involving numbers up to 4 <br> digits using mental strategies |
| :---: | :--- | :--- |
|  | Solve multi-step problems involving addition and/or <br> subtraction | https://thirdspacelearning.com/blog/year-6-maths-reasoning- <br> questions-answers-ks2-sats/ <br> Chental |
|  | Multiply a four-digit number by a two-digit number using <br> long multiplication | Maths meeting - divide 3-digit by 1-digit - use assessment for <br> target chn |
|  | Divide a three-digit number by a two-digit number using <br> short division with no remainder |  |
|  | Divide a three-digit number by a two-digit number using <br> short division with a whole number remainder |  |
|  | Divide a four-digit number by a two-digit number using short <br> division with a remainder expressed as a fraction |  |
|  | Divide a four-digit number by a two-digit number using short <br> division with a remainder rounding to two decimal places |  |
|  | Solve multi-step problems involving multiplication and <br> division, including interpreting the remainder in context |  |
|  | Carry out calculations involving mixture of addition and <br> subtraction or multiplication and division (BIDMAS) |  |
|  | Carry out calculations involving mixture of multiplication and <br> addition/subtraction (BIDMAS) |  |
| Carry out calculations involving mixture of division and <br> addition/subtraction (BIDMAS) |  |  |
| Carry out calculations involving all four operations (BIDMAS) |  |  |
|  | Carry out calculations involving all four operations and <br> indices (BIDMAS) |  |
| Find common multiples of two numbers |  |  |
|  | Find common factors of two numbers |  |
| Identify prime numbers |  |  |


| Fractions, decimals <br> and percentages | Use common factors to simplify fractions |  |
| :--- | :--- | :--- |
|  | Use common multiples to find equivalent fractions | Maths meeting in advance for EMc, AH, LW, ET, EH, GP, |
|  | Compare and order fractions, including fractions > 1 |  |
| Know simple fractions, decimals and percentages in different sessions. <br> equivalences (e.g. 10\%, 20\%, 25\%, 50\%, 75\%, 100\%) |  |  |
|  | Find equivalences between fractions, decimals and <br> percentages |  |
|  | Add and subtract proper fractions (denominators not <br> multiples of each other) within the whole |  |
|  | Add proper fractions (denominators not multiples of each <br> other) beyond the whole (mixed number answer) |  |
|  | Add mixed number and proper fractions (denominators not <br> multiples of each other) fractions within and beyond the <br> whole (mixed number answer) |  |
|  | Add mixed numbers (denominators multiples of each other) <br> fractions within and beyond the whole (mixed number <br> answer) |  |
|  | Add mixed numbers (denominators not multiples of each <br> other) fractions within and beyond the whole (mixed number <br> answer) | Subtract proper fractions from mixed numbers, fractions <br> within and across the whole (denominators not multiples of <br> each other) |
| Subtract mixed number from mixed numbers (same <br> denominators), fractions within and across the whole | Subtract mixed number from mixed numbers (same <br> denominators), fractions across the whole | Subtract mixed number from mixed numbers (denominators <br> multiples of each other), fractions within the whole |
| Subtract mixed number from mixed numbers (denominators <br> multiples of each other), fractions across the whole |  |  |
|  |  |  |


|  | Subtract mixed number from mixed numbers (denominators multiples of each other), fractions within and across the whole |  |
| :---: | :---: | :---: |
|  | Multiply simple pairs of proper fractions |  |
|  | Divide fraction by whole number |  |
|  | Find $10 \%, 25 \%, 50 \%$ and $75 \%$ of an amount |  |
|  | Find simple percentages of an amount (multiples of $10 \%$ and 5\%) |  |
|  | Find complex percentages of an amount (eg 17\%, 28\%, 63\%) |  |
|  | Solve problems involving the use of percentages to make comparisons |  |
| Ratio and Proportion | Solve simple ratio problems - find the value of the parts, given the whole |  |
|  | Solve simple ratio problems - find the value of the whole and parts, given one part |  |
|  | Use a scale factor to solve problems involving similar shapes |  |
|  | Use scales to solve problems involving maps, such as finding distances |  |
| Algebra | Use simple formulae expressed in words (e.g. time needed to cook a chicken: allow 20 minutes plus 40 minutes per kilogram) |  |
|  | Know the basic rules of algebraic notation |  |
|  | Express and solve missing number problems algebraically |  |
|  | Find all combinations of two variables that solve a missing number problem with two unknowns |  |
|  | Find pairs of numbers that satisfy an equation with two unknowns e.g. $a+b=15$ |  |
|  | Recognise and describe a linear sequence |  |
|  | Find the next terms in a linear sequence |  |


|  | Find a missing term in a linear sequence |  |
| :--- | :--- | :--- |
|  | Generate a linear sequence from its description |  |
|  | Froperties of Shape | Find missing angles where they meet at a point |
|  | Find missing angles where they meet on a straight line |  |
|  | Find unknown angles in a triangle |  |
|  | Find unknown angles in an isosceles triangle when only one <br> angle is known |  |
|  | Find unknown angles in a quadrilateral |  |
|  | Find unknown angles in regular polygons |  |
|  | Classify 2D shapes using given categories; e.g. number of <br> sides, symmetry |  |
|  | To use a protractor to find the size of angles <br> Acute, obtuse, reflex - by subtracting difference |  |
|  | Draw 2-D shapes given angles |  |
|  | Draw 2-D shapes given dimensions and/or angles |  |
|  | Recognise and describe 3-D shapes |  |
|  | Classify 3-D shapes including cylinders, cones and spheres |  |
|  | Draw nets of 3-D shapes |  |
|  | Construct diagrams of 3-D shapes on isometric paper |  |
| Know the names and relationships of the parts a circle |  |  |
| Mesitic\| |  |  |


|  | Draw and translate simple shapes |  |
| :---: | :---: | :---: |
|  | Carry out a reflection using one of the axes as a mirror line |  |
| Measurement: Converting Units | Convert between non-adjacent metric units length and mass from the smaller unit to the larger unit; e.g. centimetres to kilometres |  |
|  | Convert between non-adjacent metric units length and mass from the larger unit to the smaller unit; e.g. kilometres and centimetres |  |
|  | Convert between non-adjacent time units; e.g. hours to seconds |  |
|  | Solve problems involving converting between measures including miles and km |  |
| Measurement: Area and Volume | Recognise that shapes with the same areas can have different perimeters and vice versa |  |
|  | Calculate the area of a parallelogram |  |
|  | Calculate the volume of cuboids, including cubes |  |
| Statistics | Interpret pie charts |  |
|  | Construct a pie chart by measuring angles |  |
|  | Understand the meaning of 'average' and calculate the mean of a set of discrete data |  |
|  | Interpret the mean of a set of discrete data |  |

