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|  | Term One | Term Two | Term Three |
| N  U  M  B  E  R | Count forwards and backwards in 1s, 2s, 5s and 10s within 99 999.  Recognise spoken numbers within 99 999.  Read numbers within 99 999.  Write numbers within 99 999.  Know number “after” within 99 999.  Know number “before” within 99 999.  Know number “between” within 99 999.  Find missing numbers in a sequence (increasing and decreasing) within 99 999.  Understand mixed numbers as whole numbers plus a fraction.  Relate one decimal place numbers to tenths.  Understand place value of 1 decimal place numbers, representing using base 10 equipment.  Recognise spoken 1 decimal place numbers.  Read 1 decimal place numbers  Write 1 decimal place numbers.  Know whole number “after” 1 decimal place numbers.  Know 1 d.p. number “after” 1 decimal place numbers.  Know whole number “before” 1 decimal place numbers.  Know 1 d.p. number “before” 1 decimal place numbers.  Know number “between” 1 decimal place numbers.  Find missing numbers in a sequence of 1 decimal place numbers (increasing and decreasing)  Mentally find doubles of any 2 digit number up to double 50 and derive corresponding halves.  Mentally add two 2 digit numbers, bridging the ten, answers within 100.  Mentally add a two digit multiple of 10 to a 2 digit number and vice versa, bridging through 100.  Mentally add two 2 digit multiples of 10, bridging through the hundred.  Add fractions with the same denominator.  Subtract fractions with the same denominator.  Mentally subtract two 2 digit numbers, bridging the ten, answers within 100.  Know with quick recall all single digit multiplication facts.  Use written multiplication methods to multiply any whole number by any single digit number, answers within 99 999, estimating the answer before calculating.  N  U  M  B  E  R  Understand and use the concept of multiples.  Know with quick recall all division facts which are the inverse of the known multiplication facts, including finding unitary fractions of quantities.  Develop a written method for division calculation within 99 999, estimating the answer before calculating.  Solve a range of multiplication and division problems, using both written and mental methods, selecting the operation required.  Understand and use the concept of factors.  Understand and use decimal recording of amounts of money beyond £100.  Calculate change required when buying items, paying with amounts up beyond £100. | Count forwards and backwards in tenths from different starting numbers.  Order a set of consecutive numbers (increasing and decreasing) within 99 999.  Order a set of non-consecutive numbers (increasing and decreasing) within 99 999.  Demonstrate value of digits in any number within 99 999 in terms of ten thousands, thousands, hundreds, tens and ones (units).  Understand the use of 0 as a place holder.  Round numbers within 99 999 to the nearest 10 000, nearest 1000, nearest 100 and nearest 10.  Order sets of mixed numbers increasing and decreasing.  Order a set of consecutive 1 d.p. numbers (increasing and decreasing) within 99 999.  Order a set of non-consecutive 1 d.p. numbers (increasing and decreasing) within 99 999.    Understand concept of percentage as “out of 100”.  Develop a standard written method for vertical addition 10th Th H T U (no exchange, then with exchange), estimating the answer before calculating.  Mentally add two 3 digit multiples of 10, without bridging the hundred.  Mentally add a single digit to a 1dp decimal number.  Add mixed numbers whose fractional parts have the same denominator.  Develop a standard written method for vertical subtraction 10th Th H T U (no exchange, then with exchange), estimating the answer before calculating.  Subtract mixed numbers whose fractional parts have the same denominator.  Mentally subtract a single digit to/from a 1dp decimal number.  Mentally find the difference between two 3 digit numbers which are close.  Multiply any whole number by 100, answers within  99 999, using concept that digits move two places to the left, as the value of each digit becomes 100 times larger.  Multiply any 2 or 3 -digit whole number by a multiple of 10, (e.g. 37 x 30, using partitioning strategy to multiply by 3 then by 10)  Mentally multiply any whole number by 10, answers within 99 999.  Divide any multiple of 100 within 99 999 by 100, using concept that digits move two place to the right, as the value of each digit becomes 100 times smaller.  Mentally divide any multiple of 10, within 99 999, by 10.  Solve a range of multiplication and division problems, using both written and mental methods, selecting the operation required.  Calculate in the context of money, using all 4 operations- written, mental and calculator methods e.g. working out the cost of a meal for 4 people, then splitting the total cost equally between them. | Know equivalence of simple fractions where the numerator is not 1.  Find fractions of quantities where the numerator is not 1  Demonstrate value of any 1 d.p. number within 99 999 in terms of ten thousands, thousands, hundreds, tens, ones (units).  Round 1 d.p. numbers to the nearest whole number.  Recognise simple percentages (10%, 20%, 25%, 33 1/3 % 50%, 100%) and know their equivalent fraction. Use this knowledge to solve simple problems.  Mentally calculate 50%, 25%, 10% of a quantity.  Develop a standard written method for vertical addition 10th Th H T U, including decimal numbers with up to 1 d.p. (no exchange, then with exchange), estimating the answer before calculating.  Develop a standard written method for vertical subtraction 10th Th H T U, including decimal numbers with up to 1 d.p. (no exchange, then with exchange), estimating the answer before calculating.  Mentally subtract a 2 digit multiple of 10 from a 3 digit multiple of 10, without bridging the hundred.  Mentally subtract a 3 digit multiple of 10 from a 3 digit multiple of 10, without bridging the hundred.  Use written multiplication methods to multiply any number, including decimal numbers with up to 1 d.p. by any single digit number, answers within 99 999, estimating the answer before calculating.  Multiply any whole number by a multiple of 100, answers within 99 999 (e.g. 37 x 300, using partitioning strategy to multiply by 3 then by 100)  Mentally multiply any whole number by 100, answers within 99 999.  Divide any number within 99 999 by 10, using concept that digits move one place to the right, as the value of each digit becomes 10 times smaller.  Solve a range of multiplication and division problems, using both written and mental methods, selecting the operation required.  Apply knowledge of simple percentages to financial contexts (e.g price increases and decreases). |
| PROCESSES | Select and use materials and equipment required for their work. Identify and collect information required for a task, initially with teacher support. Suggest ways a task might be approached. Plan own work and work systematically. Suggest how to present findings. Begin to choose a format to record work and give reasons for the choice. Begin to present findings using prose, numbers and symbols, to show how the problem was solved/investigation was carried out. Begin to use appropriate language to describe orally their work. Explore and use a range of problem solving strategies, persevering when difficulties are encountered. Review and explain own way of working. Check accuracy of own results and findings. Explain their thinking. Compare methods of presentation and discuss which shows the results most clearly. Discuss a general statement with teacher/peers and check whether particular cases match it. Discuss and share benchmarks for making estimates. | | |
|  | Term One | Term Two | Term Three |
| M  E  A  S  U  R  E  S | Understand the kilometre as a unit for measuring longer distances.  Convert between kilometres and metres and between metres and kilometres where there are whole or half kilometre answers.  Calculate perimeters which involve inferring missing lengths.  Understand the metric tonne kilometre as a unit for weighing and comparing heavier objects.  Convert between tonnes and kilograms and between kilogrammes and tonnes where there are whole or half tonne answers.  Understand that a square metre is a square where each side is 1 m in length, and that it has an area of 1 m2 .  Estimate and measure larger areas using m2 .  Understand the concept of volume as a measure of how much space an object takes up.  Understand conservation of volume.  Understand 24 hour time system.  Convert between 12 and 24 hour time system. | Convert between all metric units of length, involving up to 1 d.p.  Convert between all metric units of weight, involving up to 1 d.p.    Convert between all metric units of capacity, involving up to 1 d.p.    Develop a formula for calculating the area of squares and rectangles, based upon the length of each row (or column) and the number of rows (or columns) of squares.  Estimate and measure volume of cubes and cuboids by filling with cubes.  Calculate start, finish times and durations using 24 hour system. | Apply knowledge of metric units of length to real life contexts, including estimating, selecting appropriate units and measuring equipment, involving up to 1 d.p.  Understand concept of scale in maps and diagrams.  Apply knowledge of metric units of weight to real life contexts, including estimating, selecting appropriate units and measuring equipment, involving up to 1 d.p.  Apply knowledge of metric units of capacity to real life contexts, including estimating, selecting appropriate units and measuring equipment (interpreting different scales effectively), involving up to 1 d.p.  Understand why 1m = 100cm, but 1 m2 = 10 000cm2 .  Calculate areas of squares and rectangles, and simple composite shapes.  Appreciate need for standard unit of volume.  Understand that a cubic cm is a cube of side length 1cm, whose volume is 1cm3 .  Estimate and measure volumes of cubes and cuboids using cm cubes.  Interpret timetables using 24 hour time system.  Use a thermometer to measure temperature, and calculate temperature increases and decreases, including negative values. |
|  | Term One | Term Two | Term Three |
| S S  H P  A & A  P C  E E | Identify an unknown 2D shape, given information regarding its properties: number and relative lengths of sides, number corners, number of lines of symmetry, and size of angles (acute, right and/or obtuse angles).  Understand and use terms horizontal, vertical, perpendicular, parallel.  Understand that a whole turn is divided into 3600 and use to calculate degree equivalents of one, two, three right angles; quarter, half, ¾ , and full turns.  Use term “reflex” to categorise amounts of turn greater than 180o. | Identify an unknown 3D shape, given information regarding its properties: number and relative lengths of edges, number and shape of faces and number of vertices.  Reflect shapes and designs about two lines of symmetry: horizontal and vertical.  Visualise the 3D shape which would result from particular nets.  Understand and use 8 points of compass to calculate direction and amount of turn.  Understand that half a right angle is 45o .  Program Beebot and LOGO turtle using degrees to define the amount of turn. | Classify triangles according to their particular properties, and so define equilateral, isosceles, right-angled and scalene triangles.  Identify which net would produce a particular 3D shape.  Construct 3D shapes using skeletons, to particular requirements (e.g. build a triangular prism which has an isosceles triangle face at each end)  Use LOGO to generate mathematical shapes and designs, using “Repeat” function where appropriate. |
| H  A  N D  D A  L T  I A  N  G | Collect evidence to help decision making in a real life context, and justify that decision, using data handling skills to identify and collect data, display data graphically and interpret results.  Interpret pie charts using fractions up to 10ths to work out proportions and quantities of a total.  Extend range of vocabulary when describing likelihood of events. | Interpret composite bar charts, which show more than one type of data on the same chart.  Construct, use and interpret bar-line graphs.  Recognise the need to group data.  Record data in tables with given class intervals, understanding that class intervals are equal in range and have no gaps or overlaps with adjacent class intervals.  Display information from table as a grouped frequency diagram, with given class intervals.  Order events in terms of likelihood of event occurring. | Find Mean and Range of a set of data.  Design and use a decision tree to sort and classify objects.  Construct computer database, identifying number and type of fields required, and use to enter and extract information relevant to a topic.  Identify events which have an equal chance of occurring as not occurring, and describe as “even chance”. |