**Primary 7 Maths Curriculum – St Andrew’s Primary**

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| Term 1 es and os | Detail | SALs and *learner statements* |
| MNU 2-02a | *I have extended the range of whole numbers I can work with and having explored how decimal fractions are constructed, can explain the link between a digit, its place and its value.* | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Zero as a place holder in decimal fractions* |  |  | | --- | | *Relationship between fractional numbers, decimal fractions and percentages*  I can apply stages listed previously,  independently, to a variety of tasks  demonstrating that I am secure in my  understanding.    \*IN ALL WORK, AT ALL LEVELS  CHILDREN WILL UNDERSTAND THE IMPORTANCE OF ZERO WHEN  READING AND RECORDING NUMBERS.) |   **Applying numeracy and mathematical skills.**   |  | | --- | | *Multiples and factors of numbers*  *Order of operations*  *Complex number sequences Impact of mathematics in our global environment* | |
| MNU 2-03a | *Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.* | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Choose the appropriate level of accuracy in a given context* |  |  | | --- | | *Negative numbers* |  |  | | --- | | *Multiples and factors of numbers*  *Order of operations*  *Complex number sequences Impact of mathematics in our global environment*  I can use my knowledge of number bonds to add all numbers, including decimals.  I can add mentally within 1000.  I can investigate various strategies for  subtraction including decimals \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  I can discuss/read the problem independently to identify the information being sought.  I can choose which calculation is needed from all given number processes.  I can choose appropriately from a wider range of methods to solve problems.  I can discuss and present the approaches I have and justify/demonstrate why I have chosen these approaches.  I can create numeracy problems for others based on my knowledge of methods.  Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others.    I can amalgamate the two previous processes into 1 sum. I.e. move the numbers up a  column to x by 10 then x by  I can multiply by 1000 and beyond, mentally and written, bearing in mind place value.  I can multiply decimals by decimals up to 2 decimal places.  I can divide numbers by 2 digit numbers using repeated subtraction of bundles of 10 or 100 or more .  I can, with support, investigate other methods of long division.    I can explore multiplication facts beyond tables..    I can see that multiplication by 2 digits by multiples of 10 ie 20, 30, involves 3 processes ie.69 x 20 = 69 X 10, then x answer by 2 , then add.    Thus 3 sums are needed. 2 processes multiplication and addition. |   **Applying numeracy and mathematical skills.** |
| Term 2 es and os | Detail | SAL |
| MTH 2-05a | Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers. | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Multiples and factors of numbers* |   I can use relationships between numbers to simplify calculations e.g. doubling and halving |
| MTH 2-15a | I can apply my knowledge of number facts to solve problems where an unknown value is represented by a symbol or letter.  **MTH 2-15a** | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Choose the appropriate level of accuracy in a given context* |   I can find the missing numbers and/or  operations in more complex statements  e.g. 4 ? 7 = 28  I can find the function given the input  and output  I can create such complex statements of  my own for others to solve.  I can collect the terms and work out how  many there are of each letter  (e.g. 4t + 3s + 2t – s = 6t + 2s), If there is  more than one letter.  I can simplify an expression and know this  doesn’t change the value.  **Applying numeracy and mathematical skills.** |
| MTH 2-03b, 03c | *I have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods*.  ***MNU 2-03b***  Having explored the need for rules for the order of operations in number calculations, I can apply them correctly when solving simple problems.  **MTH 2-03c** | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Order of operations* |   I can read decimal places on a variety of scales accurately.    I can estimate using simple decimal fractions when solving practical problems, such as measurement (including time).    I can solve a simple algebraic equation  eg. 3y + 5 = 20    I can use brackets to show how I have grouped together helpful numbers.    I can demonstrate how I might have to write several steps to show thinking as I work out each part of the calculation.    The number and number process skills  contained within **2-01a, 2-03a and b** should be applied to problem solving in a variety of contexts within number, money and measure.  **Applying numeracy and mathematical skills.** |
| MTH 2-07a, 7b, 7c | *I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems.*  ***MNU 2-07a***    *I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method.*  ***MNU 2-07b***    I have investigated how a set of equivalent fractions can be created, understanding the meaning of simplest form, and can apply my knowledge to compare and order the most commonly used fractions.  **MTH 2-07c** | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Relationship between fractional numbers, decimal fractions and percentages* |   I can recognise and use second decimal place eg. 0.25, 3.72    I can recognise the division of shapes into  percentages and can use simple percentages eg. 1%, 10%, 50%    I can work out percentages of amounts    I can recognise a fraction in is simplest form eg. no more common factors (3/8)    I can compare and order the most commonly used fractions eg. 1/10, ½, ¾.    I can show my understanding of fractions by stating equivalent fractions    I can match vulgar fractions, decimal fractions  and percentages.    I can solve problems presenting my work  As % decimal of fractions.    **Applying numeracy and mathematical skills.** |
| MTH 2-16a. 16c | Having explored a range of 3D objects and 2D shapes, I can use mathematical language to describe their properties, and through investigation can discuss where and why particular shapes are used in the environment.  **MTH 2-16a**  I can draw 2D shapes and make representations of 3D objects using an appropriate range of methods and efficient use of resources.  **MTH 2-16c** | **Using knowledge and understanding of shape and space**   |  | | --- | | *Properties of, and relationships between, 2D shapes and 3D objects* |   I can discuss 3D objects with reference to:  Vertices & Diagonals    I can define and classify quadrilaterals    I can explore the cross sections of various 3D  objects and describe what I find using  correct terminology.    I can recognise a variety of polyhedra  and talk about their properties.    I can draw representations of 3D objects – cube, cuboids & prisms    I can use cut out variety of nets from various  material in an efficient way. |
| MTH 2-19a | I can illustrate the lines of symmetry for a range of 2D shapes and apply my understanding to create and complete symmetrical pictures and patterns. | **Using knowledge and understanding of shape and space**  *Symmetry in a range of 2D shapes*  I can complete symmetrical shapes with a  diagonal line of symmetry    I can complete a symmetrical pattern with more than one line of symmetry    I can create a symmetrical shape with more than one line of symmetry    I can create rotational symmetry patters on squared and isometric paper.    I can identify how often a rotational  symmetry shape fits into its own outline. |
| MNU2-09a, 9b, 0c | *I can manage money, compare costs from different retailers, and determine what I can afford to buy.*  ***MNU 2-09a***  *I understand the costs, benefits and risks of using bank cards to purchase goods or obtain cash and realise that budgeting is important.*  ***MNU 2-09b***  *I can use the terms profit and loss in buying and selling activities and can make simple calculations for this*.  ***MNU 2-09c*** | **Researching and evaluating data to assess risks and make informed choices**  I can cost items and allocate money appropriately within a budget.  I can talk about representations of  money such as vouchers, credit cards,  rail/pre-pay tickets  I can give examples of where people  keep the money they have and how they  access it  I can talk about how people earn or  obtain money  I can talk about how to be safe with  money  I can talk about the items or services  which people spend money on : giving  examples of the items or services I need and others I might want  I can prioritise my wants and needs   I can explain the benefits and risks of using a  bank card instead of actual cash    I can explain how a bank card is used to  obtain cash    I understand how a bank account works    I understand the importance of budgeting.    I can think about costs that may be hidden  when I make a purchase such as VAT and  service charges.   I can explain the meaning of the terms ‘profit’ and ‘loss’.  I can identify when a profit has been made  I can identify when a loss has been made  I can complete simple calculations for profit and loss . |
| Term 3 es and os |  |  |
| MTH 2-17a, 17b | I have investigated angles in the environment, and can  discuss, describe and classify angles using appropriate mathematical vocabulary.  **MTH 2-17a**  I can accurately measure and draw angles using appropriate equipment, applying my skills to problems in context.  **MTH 2-17b** | **Using knowledge and understanding of measurement and its application**  *Calculate measurements*  I can identify and use the term ‘reflex’ to  describe an angle between 180° and 360°    I regularly estimate angles with increasing  accuracy (within 10 degrees approx) using  the “Bananas” game  (teacher’s tools on comp).  I can draw and measure angles accurately  within 2° using both full and half protractors. |
| MTH 2-12a | I have worked with others to explore, and present our findings on, how mathematics impacts on the world and the important part it has played in advances and inventions.  **MTH 2-12a** | *I have investigated how Maths has played its part in advances and inventions and can give examples*    *I have shown my understanding of these through discussion and presenting my findings in a variety of ways*    I have investigated how Maths has played  its part in advances and inventions and  can give examples    I have shown my understanding of these  through discussion and presenting my  findings in a variety of ways |
| MNU 2-01a | *I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others.*  ***MNU 2-01a*** | **Applying numeracy and mathematical skills.**  I can round numbers to 3 decimal places.    I can estimate answers to problems in money, time & measurement, which  involve rounding to 3 decimal places.    I can share and justify my answers.    I can round numbers to 3 decimal places.    I can estimate answers to problems in money, time & measurement, which  involve rounding to 3 decimal places.    I can share and justify my answers. |
| MNU 2-11a, 11b, 11c | *I can use my knowledge of the sizes of familiar objects or places to assist me when making an estimate of measure.*  ***MNU 2-11a***  *I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems.*  ***MNU 2-11b***    *I can explain how different methods can be used to find the perimeter and area of a simple 2D shape or**volume of a simple 3D object.*  ***MNU 2-11c*** | **Using knowledge and understanding of measurement and its application**  *Convert standard units*  *Area, perimeter, volume*  I can choose the appropriate unit of measure  when estimating a variety of objects.  I can choose the appropriate unit of measure  when estimating length, width or height.  I can choose the appropriate unit of measure  when estimating capacity.    I can choose the appropriate unit of measure  when measuring length, width or height.  I can choose the appropriate unit of measure  when weighing objects.  I can do calculations using addition,  subtraction, multiplication and division  involving unit of weight.  I can choose the appropriate unit of measure  measuring capacity.  I can do calculations using addition,  subtraction, multiplication and division  involving unit of capacity.  I can do calculations using addition,  subtraction, multiplication and division  involving units of length, including km, weight and capacity   I can calculate the area of right-angled  triangles using the formula A = ½(l x b),  measuring in cm² and ½cm².    I can calculate the area of more complex  shapes using my knowledge of the area of  squares, rectangles and right-angled triangles.    I can calculate the area of small objects using  the formula A = l x b, measuring in mm².    I can calculate the volume of cubes and  cuboids using the formula V = l x b x h . |
| Term 4 es and os |  |  |
| MTH 2-13a | Having explored more complex number sequences, including well-known named number patterns, I can explain the rule used to generate the sequence, and apply it to extend the pattern.  **MTH 2-13a** | **Using knowledge and understanding of the number system, patterns and relationships**   |  | | --- | | *Complex number sequences* |   I can continue, describe and understand  a sequence involving prime numbers.  e.g. 1, 2, 3, 5, 7…    I can continue, describe and understand  more complex linear patterns.    I can investigate recognised patterns  i.e., Paschal’s triangle and Fibonacci  numbers. |
| MTH 2-16b | Through practical activities, I can show my understanding of the relationship between 3D objects and their nets.  **MTH 2-16b** | **Using knowledge and understanding of shape and space**   |  | | --- | | *Properties of, and relationships between, 2D shapes and 3D objects*  I can make solid 3D models using nets of:  · Tetrahedra    I understand that a 3D object can be formed  from composite 2D shapes.    I can explore whether I can make the net of  a 3D object with a curved face. | |
| MTH 2-10a, 10b, 10c | *I can use and interpret electronic and paper-based timetables and schedules to plan events and activities, and make time calculations as part of my planning.*  ***MNU 2-10a***    *I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use.*  ***MNU 2-10b***    *Using simple time periods, I can give a good estimate of how long a journey should take, based on my knowledge of the link between time, speed and distance.*  ***MNU 2-10c*** | **Using knowledge and understanding of measurement and its application**  *Appropriate collection of data and graphical representations*  I can plan an event making and using a timetable.    I can select the most appropriate unit to time a  selection of activities.    I can select and use appropriate timers   I know that the faster something travels the  shorter the time the journey takes    I know the greater the distance a journey is  the longer it will take    I can identify the link between time/speed and  distance.    I can, with increasing accuracy, estimate the  time taken for a journey. |
| MNU 2-20a, 20b | *Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading.*  ***MNU 2-20a***  *I have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way.*  ***MNU 2-20b*** | **Researching and evaluating data to assess risks and make informed choices**  *Reliability of data and graphical presentation*  I can interpret the information presented to  show awareness of the significance of the  data  e.g. “Why were there no umbrellas sold in  July in Spain?”    I can recognise that information can be  presented in a misleading way  e.g. changing the scale   I can discuss how methods of collecting  information may affect the data collected  and the conclusions drawn or predictions  made, for example through the impact  of misleading data    I can represent data using suitable scales    I can choose appropriately from an extended  range of:  Tables/Charts/Diagrams/Plots/Graphs    I can compare key features of different  displays of the same data |
| MTH 2-21a | I can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs*,* making effective use of technology.  **MTH 2-21a / MTH 3-21a** | *I can display data in the most appropriate manner*    I can display data in the most appropriate manner |