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| **Experiences and Outcomes (bundled)** | **Learning Intentions (Broad to fit with Es and Os)** | **Benchmarks** |
| **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.  **MNU 2-03b** I have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods.  **MNU 2-07a** I have investigated the everyday contexts in which simple fractions are used and can carry out the necessary calculations to solve related problems.  **MNU 2-09a** I can manage money, compare costs from different retailers and determine what I can afford to buy.  **MNU 2-11b** I can use the common units of measure, convert between units of the metric system and carry out calculations when solving problems.  **MNU 2-11c** 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 2-22a** I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability. | 1. I can select the most appropriate strategy to solve a calculation; 2. I can work out addition and subtraction and multiplication and division calculations using formal methods; 3. I can use a range of mental strategies for addition and subtraction and multiplication and division for an extended range of numbers; 4. I can convert a fraction to a decimal fraction and can talk about the position and value of the digits; 5. I can explain what a percentage is and how it relates to fractions and decimals; 6. I can find a simple percentage of an amount using my knowledge of fractions; 7. I can compare deals and offers and talk about what represents best value; 8. I can measure lengths accurately using appropriate equipment; 9. I can use my measurements to calculate the perimeter and area of a variety of different squares and rectangles; 10. I can talk about how likely something is to happen, and can justify my choices 11. I can order events on a simple probability scale. | ***Uses knowledge of inverse operations in problem solving.***  ***Interprets and solves multi-step problems by selecting and carrying out appropriate mental and written calculations, and sharing chosen approach with others.***  ***Recognises where decimal fractions are used in everyday life and applies this knowledge to record and convert amounts in money and measure accurately.***  ***Calculates simple percentages of a quantity, with and without a calculator, and uses this knowledge to solve problems in everyday contexts, for example, calculates the sale price of an item with a discount of 15%***.  ***Carries out money calculations involving the four operations.***  ***Compares costs and determines affordability within a given budget.***  ***Calculates the area of simple 2D shapes in ,***  ***, and explains the choice of method used.***  ***Chooses the most appropriate measuring device for a given task, reading scales accurately, carrying out the required calculations and recording results in the correct unit.***  ***Uses the language of probability accurately to describe the likelihood of simple events occurring, for example, equal chance; fifty-fifty; one in two, two in three; percentage chance and 1:6***  ***Plans and carries out simple experiments involving chance with repeated trials, for example, what is the probability of throwing a double six if you throw two dice fifty times?***  ***Uses data to predict the outcome of a simple experiment and explains reasons for the prediction.*** |

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| **Success Criteria**  **(Created with children – numbers link to each Learning Intention)** | **Assessment – Ongoing/Hinge Questions**  **Numbers indicate the Learning Intentions** | **Assessment – Holistic Assessment for end of unit of work** |
| **1+2+3.** I can read a problem and work out what it means;  I can identify the calculations required to solve the problem, knowing when more than one calculation is required;  I can identify the most appropriate strategy for carrying out the calculation(s);  I can record and explain my thinking so that it makes sense to somebody else;  I can explain my answer in relation to the original question and can check my solution makes sense;  I know there may be more than one solution to a problem and can identify a range of possible solutions.  **4+5+6.** I can change any tenths or hundredths fraction to a decimal;  I can talk about how many hundredths are in a tenth and partition hundredths into tenths and hundredths;  I can talk about how decimal fractions are used in everyday life;  I can change a fraction/decimal fraction into a percentage;  I understand that I can change a percentage to fraction to help me calculate a percentage of any amount;  I can recall percentages as simple fractions or as decimal fractions and vice versa.  **7.** I can talk about different offers I have seen, what they mean and how to work out the price I will pay;  I can work out the unit cost per item if I know the price of several and can use this when comparing the cost of different items;  I can make choices about what represents best value to me given my circumstances;  **8+9.** I can interpret a word or practical problem and decide which types of measure to use;  I can decide appropriate units to use in solving my problem and make any necessary conversions;  I can apply my calculations skills to help me solve problems;  I have explored how to create shapes with the same perimeter but different areas;  I have explored how to create shapes with the same area but different perimeters.  **10+11.** I can investigate when an outcome would have a good chance, poor chance or even chance of happening  I can place the likelihood of an event on a probability scale numbered 0–1  I have explored how to systematically create a list of all possible combinations and outcomes  I can represent the likelihood of a particular outcome numerically  I can discuss why this may be useful in everyday situations. | **1+2+3.** How are you going to solve this problem?  What operation will you require to use?  How do you know that this will work?  Can you prove to me that will work?  Are there any materials which could help you solve this problem? Could you act this out or draw a picture to help you?  Are there any words which might give you a clue to the operation to use?  Can you estimate what you think the answer roughly might be?  Read the problem again. Does your answer make sense?  Do you need to use any particular units?  Is the question about people, pounds, boxes, teams or something else?  **4+5+6.** There are 40 children in P5, 20 of them have shoe size 4. What percentage is this? How many different ways could you calculate the answer to this question? What is as a decimal fraction and as a percentage? Where do you see percentages used in everyday life? When would you need to be able to work out a percentage of something?  **7.** A tin of beans costs 60p and they are available on a ‘three for the price of two’ offer. How much does one tin cost in the offer? Would you buy the single tin of beans or thee for the price of two? Why? When might a ‘three for two’ offer not be useful to the buyer? What do reduce and reduction mean?  **8+9.** How many cms are there in 1.63m? How many mms? How did you work that out?  How do you find the perimeter of a compound shape?  How do you work out the perimeter of a rectangle if you know the area?  What do we need to consider when we try to solve a problem involving measure?  What maths will you use to solve this problem?  Does that answer make sense?  **10+11.** How could a very good chance be described in numbers? How else?  What is the chance of throwing a 7 with this dice? What about an even number? What about zero? How do you know?  Who uses the idea of chance in real life? Anyone else? | In preparation for the school show you need to paint the box below to create a prop. It will need 2 coats of paint. How much paint is needed to paint the box? Explain how you worked out how much paint is needed.    1.6 metres  The paint is currently on sale in 2 different shops. In both shops 1l of paint will cover The following offers are available:  PAINT WORLD – 2l tins - £5 – 30% off  PAINT LAND – 3l tins - £8 – buy one get one free  Which shop would you buy your paint from and why?  The prop is going to be used as a dice for a giant in the show. In order for the giant to be released from the cage he needs to roll a 5. Predict how likely it is that he will be released within 10 rolls of the dice? How can you investigate your prediction? |
| **Planned Activities** | **Evaluation and Reporting (Against LIs and Success Criteria)** | **Next Steps** |
| **SAY**  PERFECT OPPORTUNITY TO LINK HERE WITH NUMBER TALKS – WHICH WOULD SUIT THIS PARTICULAR BLOCK OF LEARNING |  |  |
| **WRITE**  WRITTEN EXERCISES WHICH WOULD BE SUITABLE, CHOSEN FROM RESOURCES AVAILABLE WITHIN SCHOOL i.e. Teejay, HAM etc. |  |
| **MAKE**  PRACTICAL ACTIVITIES FOR CHILDREN TO APPLY THEIR LEARNING i.e. LEARNING VIDEOS WHERE THEY DISCUSS HOW TO DO A PARTICULAR ASPECT OF NUMERACY, POSTERS TO BE SHARED WITH CLASS. |  |
| **DO**    PROBLEM SOLVING ACTIVITIES ALLOWING THEM TO APPLY THEIR LEARNING i.e. GAMES FROM HAM, youcubed.org. |  |