**Class: 2 / 3 S MATHEMATICS PROGRAM Teacher: Liane Smith**

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| **TERM** | **1** | | | **2** | | | | | **3** | | | | **4** | | |  | **STRAND** | | | | | | |
| **WEEK** | **1** | **2** | **3** | | **4** | | **5** | **6** | | **7** | | **8** | | **9** | **10** | **N** | **PA** | | **D** | **M** | | **SG** |
| **TOPIC: PATTERNS AND ALGEBRA** | | | | | | | **OUTCOME & KEY IDEAS:**  **PAS1.1** Create, represent and continue a variety of number patterns and supply missing elements; Use the equals sign to record equivalent number relationships  **PAS2.1** Generate, describe and record number patterns using a variety of strategies; Build number relationships by relating multiplication and division facts to at least 10 × 10 | | | | | | | | | | | | | | | | | | |
| **WORKING MATHEMATICALLY:**  **Questioning Reflecting Applying Strategies Communicating Reasoning** | | | | | | |
| **LEARNING ACTIVITIES ( including CMIT/DENS):**   |  | | --- | | **MATHS MAINTENANCE:**  Addition and subtraction mental problems  **WARM UPS**  Skip counting by 3,4,5  Number chart patterns |   **PRE-ASSESSMENT: Show students a pattern on the hundreds chart & ask them to describe the pattern.**  ***WORKING AT* PAS1.1**   * **Relating Repeating Patterns to Number Patterns**   **Part A** Students are asked to choose three different-coloured counters and create a ‘repeating pattern’. They are asked to assign a counting number to the last counter in each group and discuss. eg 3 6 9 12. Students create a repeated pattern with two, four or five different-coloured counters. They assign counting numbers, record their patterns and discuss their results.  **Part B** Students are asked to record their ‘repeating pattern’ (from Part A) on a 10 × 10 grid. They continue their pattern to complete the grid. Students assign a number to the last counter in each group. Possible questions include: look at the colours, what pattern do you see? can you tell me about the numbers you have recorded? who can see a pattern in the numbers? What is the pattern? what is the fourth number you have recorded? when you count by threes, do you say the number 25?…36?….30?.…100? can you show me the number that is the answer to 3 + 3 + 3?… and 3 + 3 + 3 + 3 + 3?   * **Make a Number Pattern** Students are asked to make a number pattern that increases, or a number pattern that decreases. They are asked to:   -describe their number pattern in words and record these words -continue their number pattern -explain why a particular number is/is not used in their number pattern -create another number pattern that has a particular number in it eg ‘create a number pattern with the number 10 in it’.   * **Making the Calculator Count**   **Part A** In pairs, students are given a calculator and are shown how to make it count by repeatedly adding the same number. For example, on some calculators students enter or Students read the numbers displayed on the screen and record on an empty number line. 0 2 4 6 8 10 12 14 16 18 20 22 24 26  Possible questions include: -what pattern do you see on the number line? -how many numbers did you land on? How many numbers did you jump over? -what would happen if you made your calculator count by fours?   * **(A) What’s My Rule?**  Given a number pattern, the students are asked to describe the pattern, add more numbers. Students are asked to create their own pattern and describe the rule.   ***WORKING BEYOND NS1.1 and WORKING AT NS2.1***   * **Identify and Record Number Patterns** Make a table of ten by patterning every tenth number on a hundred chart . With another colour make a table of nines, elevens etc . Students state what they notice about the patterns made. * **Prime Numbers** Using a hundred chart students follow the instructions to find the prime numbers to 100. Cross out 1. Colour 2 and cross out the rest of the even numbers. Colour 3, cross out all the multiples of 3. Colour 5, cross out all the multiples of 5. Colour 7, cross out all the multiples of 7. Colour all the remaining numbers. The coloured numbers are the prime numbers. * **Calculator Patterns** Use the constant function on a calculator to create patterns. Enter a given number.Decide on your rule eg +4. Press +, +, = to create next number in the pattern. Continue pressing equal to show each term eg Rule +4, Enter 1.5 on calculator, press +, +, 4 = *5.5 = 9.5* etc. Predict the next number in the pattern * **(A) What’s My Rule?** Each of these groups of numbers follows a pattern. Find the pattern, and write down the next three numbers   + 2 6 10 14 \_\_ \_\_ \_   + 64 32 16 8 \_\_ \_\_ \_\_   + 11 22 33 44 \_\_ \_\_ \_\_   + 6 9 8 11 10 13 \_\_ \_\_ \_\_   + 1 3 7 13 21 \_\_ \_\_ \_\_ Explain the rule. | | | | | | | | | | | | | | | | | | | | | | | | | |
| **CONSOLIDATION AND PRACTICE –**  Maths In a Box Activities: Cards 76 – 80 Targeting Maths 2 pp 64,65 &100, 101  Targeting Maths 3 pp 62,63 & 96-99 | | | | | | | | | | | | | | | | | | | | **ASSESSMENT** – Marked with an (**A)** | | | | | |
| **RESOURCES:**   * K-6 Mathematics Syllables * K-6 Mathematics Work Samples * TESS Software * Maths In A Box 1 Cards * Interactive Maths sites**:**   <http://www.topmarks.co.uk/>  <http://multiplication.com/index.htm>  <http://www.smartkiddies.com.au/>  <http://www.coolmath4kids.com/>  <http://www.crickweb.co.uk/>  <http://www.woodlands-junior.kent.sch.uk/maths/index.html>  *hundreds chart, egg cartons, counters, 10 × 10 grid, calculators, number cards (1 to 30), interlocking cubes, butchers’ paper* | | | | | | | | | | | | **LANGUAGE MODELLED:**  number pattern, counting forwards by, counting backwards by, odd, even, increase, decrease, missing, combination, is the same as, true, false, changes, doesn’t change, repeating pattern, add, multiply, divide, subtract, complete, next number ‘The number pattern 2, 4, 6, 8, 10 and 12 is like counting by twos.’ ‘The numbers in this pattern all end in five or zero.’ ‘When I add zero to the number, the number doesn’t change.’ | | | | | | | | | | | **EVALUATION:** | | |