**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 6 | STRAND: Number and Algebra | **SUB-STRAND:** Patterns and Algebra 1  | **WORKING MATHEMATICALLY:** MA1-1WM, MA1-2WM |
| OUTCOMES: MA1-8NA  | **Creates, represents and continues a variety of numbers and objects.** |
| **CONTENT:**  | **Investigate and describe patterns formed by skip counting and patterns with objects.(ACMNA018)*** Make connections between repeating patterns and counting, e.g. a ‘three’ pattern and skip counting by threes.(Communicating, Reasoning)
* Model and describe ‘odd’ and ‘even’ numbers using counters paired in two rows.
* Describe the pattern created by modelling odd and even numbers.
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Orally say a pattern with a mistake in it [e.g. 2, 4, 6, 9, 10, 12, 14.] or a number missing [2, 4, 6, 10, 12, and 14]. Ask where the mistake is in the pattern. What did you do to find the answer? Did someone else do it another way? If it is too difficult, show the cards to the students.
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| WARM UP / DRILL | * Count forwards and backwards by 2’s, 5’s and 10’s.
 |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  |  |
| QUALITY TEACHING ELEMENTS | **INTELLECTUAL QUALITY** | **QUALITY LEARNING ENVIRONMENT** | **SIGNIFICANCE** |
| * Deep knowledge
* Deep understanding
* Problematic knowledge
* Higher-order thinking
* Metalanguage
* Substantive communication
 | * Explicit quality criteria
* Engagement
* High expectations
* Social support
* Students’ self-regulation
* Student direction
 | * Background knowledge
* Cultural knowledge
* Knowledge integration
* Inclusivity
* Connectedness
* Narrative
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| RESOURCES | Websites: Count Me in Too; http://www.cheekymonkeyresources.co.uk/Sequencenew/SEQUENCE.htm <http://www.topmarks.co.uk/Flash.aspx?f=SnowflakeSequencesv2> [www.harcourtschool.com/activity/paul\_pattern](http://www.harcourtschool.com/activity/paul_pattern); [www.wnet.org.uk/resources/gordan/counting](http://www.wnet.org.uk/resources/gordan/counting); Talking about Patterns and Algebra, Dept of Ed book. |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| * Using a hundreds chart, count by fives [to 100], turning over the numbers as you go- or some other way to demonstrate the numbers you are saying.
* Possible questions include:
* What do you notice about the numbers we are saying?
* Look at all the numbers we are saying on the hundreds chart. What pattern do you notice?
* Did we count number 35, …..51, …85? How do you know?
* *Variation*: Students count by other multiples e.g. Tens, twos.
 | LEARNING SEQUENCERemediationES1  | * Students are to use one-to-one correspondence to create a repeating two pattern. On the numbers 2, 4, 6 etc. say those numbers louder to emphasise that they are the numbers in the pattern.
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| LEARNING SEQUENCES1 | * 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 e.g.

A B C A B C A B C A B C  3 6 9 12* Students create a repeated pattern with two, four or five different coloured counters. They assign numbers, record their patterns and discuss their results.
* Students record their ‘repeating pattern’ on a 10 X 10 grid. Continue the pattern to complete the grid as they have been doing. Possible questions include; - Look at the colours, what patterns do you see? Can you tell 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?.... 3 + 3 + 3 + 3 + 3?
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| LEARNING SEQUENCEExtension Early S2 | * Initiating Activities

On a hundreds chart, students colour all the multiples of 3 in yellow, the multiples of 6 in blue and the multiples of 9 in green. Students make a number chart using only the multiples of 3 and cut it into a jigsaw for another student to complete. |
| **EVALUATION & REFLECTION** |  |

* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.
* Assessment rubrics or marking scale should be considered.