**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 1 | 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)*** Identify and describe patterns when skip counting forwards and backwards by ones, twos, fives and tens from any starting point.
* Use objects to represent counting patterns. (Communicating)
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * **WORKSHEET A**
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| WARM UP / DRILL | Body counting: By twos, lightly on knee, harder on the other. One hand up at a time, counting by fives. Shoulder, head, shoulder, counting by threes. Two hands, counting by tens. |
| 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 |
| The class is divided into two groups. A hundred charts is displayed. The class counts by fives referring to the chart. As they count, the groups take turns to name the next number in the sequence.* Give flashcards: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, to ten children. They have to arrange themselves in order counting by fives.
* Use flashcards; 10, 20, 30, 40, 50, and repeat by tens.
 | LEARNING SEQUENCERemediationES1  | * The class is divided into groups and have a set of 2D shapes between them.
* Using 2 different shapes, each child makes a pattern. They also get each other to continue their pattern.
* Try another pattern using 3 shapes. Children draw [trace] their patterns.
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| LEARNING SEQUENCES1 | * Children are shown a drawing of a two eyed monster and are asked “How many eyes does this monster have?” Record the eyes.

“How many eyes are on two monsters? How did you work it out?”“How many eyes are on three monsters?... four monsters?... five monsters? How did you work it out? Add the information to the chart. (record on Ipad)* Students line up in twos to investigate whether every student in the class will have a partner. As a whole class, they count the rows of students.......they are even numbers.
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| LEARNING SEQUENCEExtension Early S2 | The children do the previous exercise with:* the number of cats legs;
* sides of triangles;
* Student use pop sticks to form a triangle for counting by threes. As they go they predict what the next number will be.
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| **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.