**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 3 | STRAND: Number & Algebra | **SUB-STRAND:** Patterns & Algebra | **WORKING MATHEMATICALLY:** MAe-2WM  |
| **OUTCOMES:** **MAe-2WM** | **Uses objects, actions, technology and/or trial and error to explore mathematical problems** |
| **CONTENT:**  | **Sort and classify familiar objects and explain the basis for these classifications (ACMNA005)**\* Recognise that a group of objects can be sorted and classified in different ways CCT\* Explain the basis for their classification of objects (Communicating, Reasoning) ICT\* Students should be able to communicate using the following language: **group**, **pattern**, **repeat**. |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Assessment before: Anecdotal observations when children are provided with a variety of objects, take a snap shot of each child after they have sorted a group of objects into same & different.
* Assessment after: Worksheet - Students could use pictures of objects, and the term ‘is the same as’ to record their findings. Cut & Paste activity.

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| WARM UP / DRILL | * **King of the Circle**

Students sit in a circle and one stands in the middle (the king). The king invites a challenger into the middle to begin the game. The king rolls the die and it is a race between the two students in the middle of the circle to name the number of dots. The winner is the king and the loser sits back in the circle. The next person along in the circle is the new challenger. The game continues around the circle until the first player is reached again.  |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | * **Ten pegs**

Provide each student with ten clothes pegs and a length of cardboard displaying ten dots. Students take turns to roll a die and count the dots on the die. After counting the die pattern the student then takes a corresponding number of pegs and attaches them to the cardboard strip, matching each peg to a dot. Play continues until the students have attached pegs to all the dots on their strip of cardboard. They need to roll the exact number needed to finish. |
| 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
 |
| RESOURCES | - Variety of objects for sorting - buttons, pasta, shells, farm or zoo animals, wooden attribute blocks- Large Dice. Length of cardboard with 10 dots, pegs - Cut & Paste ‘Same a As’ Work Sheets.- IWb & Internet Sites listed |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Whole Class Instruction & Modelled Activities* **Lesson 1**

 IWB - Identify & Sort objects as a class group Sort objects into the right group: <http://www.ican-dev.org.uk/games/WTD.html>Identify & Sort objects into group <http://www.abc.net.au/countusin/games/game9.htm> * **Lesson 2 - Sort objects by size:**

Link to story The Three Bears | LEARNING SEQUENCEPre Foundation Skills | * **‘Is the Same as’**

Children are given 2 different types of objects to sort (with the same number of each). Have them sort and count the objects to see if the groups are the same. When making equal groups have them line the objects in arrays so that they have a visual and can answer accurately.  |
| LEARNING SEQUENCEES1 | * **‘Is the Same as’**

Students are given collections of objects to sort and count in order to find groups that have the same number of objects. Students describe and label the group using the term ‘is the same as’. * **Making Equal Groups.**

Children are put in pairs. Each child has different objects. First child makes a group and second child makes an equal group (check by matching 1:1) * **Work Sheet** - Students could use pictures & cut & paste, and the term ‘is the same as’ to record their findings.
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| LEARNING SEQUENCEExtension S1 | * **Number Relationships**

At this Stage, describing number relationships and making generalisations should be encouraged when appropriate. The concept of equality and the understanding that the equals sign also means ‘is the same as’ is important.Things to consider• Use the equals sign to record equivalent number relationships and to mean ’is the same as’ rather than as an indication to perform an operation Eg 5 + 2 = 4 + 3• Build addition facts to at least 20 by recognising patterns or applying the commutative property Eg 4 + 5 = 5 + 4 |
| **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.