**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: 1 | WEEK: 1 & 2 | STRAND: Number & Algebra | **SUB-STRAND:** Patterns & Algebra | **WORKING MATHEMATICALLY:** MAe-1WM |
| OUTCOMES: MAe-1WM | **Describes mathematical situations using everyday language, actions, materials and informal recordings** |
| **CONTENT:**  | **Sort and classify familiar objects and explain the basis for these classifications (ACMNA005)**\* Sort and classify a group of familiar objects into smaller groups L\* Explain the basis for their classification of objects (Communicating, Reasoning)\* Students should be able to communicate using the following language: **group**. |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Assessment before: Questioning - 1. Have students identify a small group objects *Anecdotal Notes*

 * Assessment after: Pairing Objects Work Sheet

 * Film or take photos of children sorting & sorted objects. Reflect & have students journal with support using film / photos as stimulus.

 Worksheet -  |
| WARM UP / DRILL | * IWB - Identify & Sort objects as a class group Eg Socks / wooden shapes

 Game - Sort socks & race to put on a pair. Display pairs * 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>
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | * Handful of teddies

Organise students into pairs. The students take turns to pick up a handful of teddy bears and estimate how many they have picked up. One student then counts out the teddies to the other. The partner can check the count and repeat the process. Follow this with one of the partners placing his or her teddies in a row. Encourage the students to compare the two rows of teddies and determine who has the greater number of teddies.  |
| 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 | * Bag full of a variety of socks - laminated matching sock cards - Cut & Paste ‘’Sock matching Work Sheets.
* Teddy Bear Counters, hoops, wooden attribute blocks, transport counters, coloured counters, pegs & bowls
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**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Whole Class Instruction & Modelled Activities* **Lesson 1** - Students complete a variety of matching and pairing of objects.

 | LEARNING SEQUENCEPre Foundation Skills | * Provide students with 2 colours of teddies (already sorted)
* Have them make a pattern using alternate colours.

Add another colour.* Make a pattern using alternate colours.
* See if students can make different patterns using the 3 colours.

Use concrete materials (beads, blocks, stamps) to reinforce this concept. |
| LEARNING SEQUENCEES1 | * Guided Play with concrete materials – sorting into groups.

- Colour bear counters sort into colours & size. Use small hoops to sort bear into.- Make paddocks with wooden blocks then sort specific farm animals into their paddocks.* Have students sort objects into colours
* Colour bear counters sort into colours
* Sort transport counter and match to coloured road.
* Put Bears or other counters into matching coloured bowls.
* Have students sort objects into colours eg bears, circle counters, fruit loops.
* Sort objects into pairs.
* IWB Pairing sock activity. - Follow work Sheet
* Play with bag of coloured socks, match up and peg in pairs.Record the children’s sorting play on an iPad / camera. Later replay for children & record discussions & what they sorted & how they did it.
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| LEARNING SEQUENCEExtension S1 | * Labelling Patterns

Make a linear repeating pattern with objects or shapes such as the following.Students describe the pattern and give it a name. If they label it as a square-circle pattern, ask: Can you give it a number name? If they suggest six pattern, extend the pattern so it can no longer be called a six pattern.Ask students if they can think of a number name that doesn’t have to change when the pattern is extended. Ask them to explain why they choose the labels they do. A ~ 3 ~possible label for this pattern is a two pattern because the part of the pattern that repeats has two shapes.Consider the following pattern:If a student calls it a one-two pattern, ask if there could be any other name for it. Calling it a three pattern leads to concepts of number combinations. |
| **EVALUATION & REFLECTION** |  |