**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TERM:  | WEEK: 4 | STRAND: Number & Algebra | **SUB-STRAND:** Patterns & Algebra | **WORKING MATHEMATICALLY:** MAe-3WM  |
| OUTCOMES: MAe-3WM | **Uses concrete materials and/or pictorial representations to support conclusions** |
| **CONTENT:**  | **Sort and classify familiar objects and explain the basis for these classifications (ACMNA005)**\* Explain the basis for their classification of objects (Communicating, Reasoning) ICT\* Students should be able to communicate using the following language: **group**, **pattern**, **repeat**.\* Recognise, copy and continue repeating patterns using sounds and/or actions |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Assessment before: Questioning - 1. Have students identify a sound patterns *Anecdotal Notes*
* Assessment after: Recording a sound pattern Work Sheet

 Film or take photos of children performing their musical instrument sound pattern. Reflect & have students  discuss their observations.  |
| WARM UP / DRILL | Using Technology to Teach Mathematics: Monster Choir: Making Patterns Monster Choir: Missing Monsters**http://splash.abc.net.au/res/i/L1056/index.html****Count Us In - Making Patterns****http://www.abc.net.au/countusin/games/game2.htm** |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Have students draw a pattern they have created Eg  |
| 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 | * IWB & Sites listed above - iPad - Sound Pattern work sheet
* Percussion instruments, tambourine, drum, triangle, castanets
 |

**TEACHING AND LEARNING EXPERIENCES**

|  |  |
| --- | --- |
| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| * **Lesson 1**

 **People Patterns** This activity encourages students to look for patterns in their environment. Ask one of the girls in the class to stand up, then call on a boy to stand beside her, then call on another girl, then another boy, and so on. When eight students are standing in a row, alternating girls and boys, ask the class: *Can you see a pattern in this row of children? Why is it a pattern?* * **Lesson 2**

**Sound and action patterns** Create repeating patterns with a sequence of different sounds or actions, such as: clap, clap, stamp, stamp, clap, clap, stamp, stamp … Ask students to continue the patterns and describe them in words. Create repeating patterns from the one sound or action, such as: clap, clap, clap [pause] clap, clap [pause] clap, clap, clap [pause] clap, clap ...  | LEARNING SEQUENCEPre Foundation Skills | * Students are to repeat single movements. Then increase this to a two pattern of sound or action patterns.
* Create a sound or action pattern and insert a deliberate error. Students raise their hands when they think they hear or see the error.
 |
| LEARNING SEQUENCEES1 | * Ask students to continue the patterns and describe them in words.
* Students create their own sound or action repeating patterns.
* Create a sound or action pattern and insert a deliberate error. Students raise their hands when they think they hear or see the error.

For example, clap, clap, finger-tap, clap, clap, finger-tap, clap, clap, finger-tap, clap, finger-tap…Ask the students to suggest how you could draw a clap and a stamp.Students using percussion instruments make a pattern with sounds to share with the class. Children may work in groups of 2. * Record children’s patterns on iPad for displaying on IWB. Children identify patterns & record their observations with symbols (images provided & cut & paste activity).
 |
| LEARNING SEQUENCEExtension S1 | * Have the students silently count three claps then on the fourth clap say, *four.* Continue silently counting three claps and counting out loud every fourth clap. Repeat the activity and have a student record on the board the numbers counted out loud. Ask the students to describe the sequence.
* Modify the activity to create other sequences. For example, have the students:
* Repeatedly count the fingers of one hand, tapping the first four fingers while counting them silently, then counting the thumb out loud.
* Turn their hands palm-up and silently count the first two parts of each finger then count out loud the third part.
 |
| **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.