**MATHEMATICS ES 1**

**TEACHING AND LEARNING OVERVIEW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TERM:  | WEEK: 8&9 | STRAND: Number and Algebra | **SUB-STRAND:** Patterns and Algebra | **WORKING MATHEMATICALLY:** MAe-1WM, MAe-2WM, MAe-3WM, Mae-8NA |
| OUTCOMES: Mae-8NA | **Recognises, describes and continues repeating patterns** |
| **CONTENT:**  | **Copy, continue and create patterns with objects and drawing**Recognise when an error occurs in a pattern and explain what is wrong (Communicating, Reasoning) |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | **Talking About Patterns & Algebra,**Number patterns that increase and decrease *pp27, 29. T.A.A&P.*Making People Patterns *p19 T.A.P&A.*  |
| WARM UP / DRILL | * Use ‘Counting Stick.’

Able to make vertical or horizontal number patterns.http://www.wmnet.org.uk/resources/gordon/Counting%20stick%20v4.swf |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Pointers for interview: <http://www.curriculumsupport.education.nsw.gov.au/primary/mathematics/assets/pdf/sqone.pdf>Where is the pattern not repeating?Am I able to make a decision about the future pattern? Why/Why not? |
| 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 | Counting stick: <http://www.wmnet.org.uk/resources/gordon/Counting%20stick%20v4.swf>• Go Maths Complete blackline masters 52,53 Unit 19 ES1* Talking About Patterns & Algebra, DEC
 |

**TEACHING AND LEARNING EXPERIENCES**

|  |  |
| --- | --- |
| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Explicitly communicate lesson outcomesTeach and review the language for patterns.Demonstrate placing items ‘in-a-row’Metalanguage of: design, pattern, repeating pattern, missing element, same, different, next, in-a-row, beside, again, copy, ‘read’-the pattern.Also ‘Core of pattern’.* Repeat, repeated, repeating
 | LEARNING SEQUENCERemediationES1  | * *Making and extending growing patterns*
* Children work in pairs. Make a growing pattern with the set resources in the small groups.
* Look at the growing pattern and make some more elements in the pattern.
* Ask the child to describe the growing pattern.
* Invite some children to show the class the growing pattern.
 |
| LEARNING SEQUENCEES1 | * *Sound and action patterns*

Continue lesson from earlier. *p15, T.A.P&A*Complete activity with a deliberate error. Discuss why that there is an error.Continue activity with an element left out.* Class Design
* Create a growing pattern with counters. Show 1 yellow, 2red, 3green, 4 blue, Repeat
* Change the pattern with an error.
* Replace the missing counters.
* Development
* *Go Maths* Complete blackline *masters 52,53 Unit 19 ES1*
* Create pattern stencils from pp 12,15,24 *Talking about P&A*
* Investigation: Number patterns that increase and decrease in size. *P22 Talking about P&A*
 |
| LEARNING SEQUENCEExtension Early S1 | * *Trucking teddies pp271DENs book 1*
* Play game

Change elements in each truck and have the children complete the pattern to make equal groups.* Make a linear tessellating tile pattern with blocks.
 |
| **EVALUATION & REFLECTION** | Play Guess my Square p191 DENs 1Building and making arrays that are covered and need describing. |

* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.