**MATHEMATICS ES 1**

**TEACHING AND LEARNING OVERVIEW**

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| 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**

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| 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 SEQUENCEExtensionEarly 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 1  Building 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.