**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 3 | STRAND: Number and Algebra | **SUB-STRAND:** Multiplication and Division 1 | **WORKING MATHEMATICALLY:** MA1.1WM MA1-6NA |
| OUTCOMES: | **\*Describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols.****\* Uses a range of mental strategies and concrete materials for multiplication and division.** |
| **CONTENT:**  | **Model and use equal groups of objects as a strategy for multiplication**\*Model and describe collections of objects as “groups of” eg. 2 groups of 3\*Recognise the importance of having groups of equal size. (reasoning) |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | \*Ask children to skip count by 2’s 5’s 10’s\* Ask children to model a given groups with counters |
| WARM UP / DRILL | \*Skip counting using the IWB hundreds chart.\*Rhythmic skip counting using body percussion.\*Briefly show an array of counters on IWB. Discuss how to count them. |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | If I had 4 bags with 5 lollies how many lollies would I have?There are 16 legs. How many dogs? How many birds? |
| 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 | DENS book, toothpicks, hundreds charts, counters, teddies<http://www.topmarks.co.uk/Flash.aspx?f=grouping><http://www.sparklebox.co.uk/maths/calculations/multiplication-activities.html#.U8stW7Ezm5o> |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| The children are at the Figurative stage of development **Review and teach*** Skip counting as a method to count quickly**.**

Students need to develop strategies where they see a group of items as one unit and they no longer need to count each item.**Introduce the concept of arrays**[**http://www.youtube.com/watch?v=ks-q6gKoQKs**](http://www.youtube.com/watch?v=ks-q6gKoQKs)**Changing Groups*** \*Arrange 9 children into 3 groups
* **Question** If we add another group how many would there be altogether?
* Continue adding groups and changing the number of students.

**Groups*** As a class the concept of groups is modelled using counters, teddies etc.
* These are discussed and the total of them are found using skip counting if possible.

**\*Stress the number of groups and the number in each group****\* Stress groups need to be equal size****This needs constant repetition and reinforcement.** | LEARNING SEQUENCERemediationES1  | **These activities are at a perceptual stage*** Make 3 or 4 echidnas from play dough. Place equal groups of toothpicks in each. How many toothpicks?
* Provide outlines of ladybirds. Ask child to place a given number of counters on each one. How many counters?
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| LEARNING SEQUENCES1 | **These activities are at a figurative stage.****Making Groups*** Children work in pairs. They are given some counters and one child is asked to construct groups. Eg 5 groups of 5. The other child looks at it and then it is covered. The child is then asked to construct what was made
* **Triangle teddies** Using pop sticks and counters the child makes a triangle and places a teddy on each corner. This is repeated on a second triangle
* **Investigate** How many teddies? If I continue to form additional triangles how many teddies?. Can I make different shapes using this method? How many teddies?
* **Barrier Game** One student forms a group of objects behind cardboard and describes it to the other child who attempts to form the same groups and total
* **Grouping Bingo** See resources for website

Assessment Children can effectively form a given number of groups with a given number of objects and attempt to count the total using skip counting. This can be noted during the above activities. |
| LEARNING SEQUENCEExtension Early S2 | **These activities are at a counting on stage*** **Hundred Chart Ask** students to colour the multiples of a nominated number. Children can make these on the IWB

Children complete above activities using more difficult groups.The concepts of arrays can be introduced. |
| **EVALUATION & REFLECTION** | Observe and question the children to determine how they are calculating the total.**Student engagement Achievement of Outcomes****Resources Follow up** |