**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? |
| 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 SEQUENCEExtensionEarly 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** |