**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 11 | STRAND:Number & Algebra | **SUB-STRAND:**  Multiplication & Division 2 | **WORKING MATHEMATICALLY:**  MA1-6NA |
| OUTCOMES: | | MA1-1WM describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols  MA1-2WM uses objects, diagrams and technology to explore mathematical problems  MA1-3WM supports conclusions by explaining or demonstrating how answers were obtained  MA1-6NA uses a range of mental strategies and concrete materials for multiplication and division | | |
| **CONTENT:** | | Recognises when items have been placed into groups. E.g. ‘I can see two groups of pencils.’  Uses concrete materials to model multiplication as equal ‘groups’ and by forming an array of equal ‘rows’ or equal ‘columns’. E.g. Describe collections of objects as ‘groups of’, ‘rows of’ or ‘columns of’. (Communicating) | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | Students should be able to count the total number of a given group.  Students should be able to understand the concept ‘the same’ | | |
| WARM UP / DRILL | | * Teacher to show students flashcards of a group of objects. Students to call out what they see. E.g. I see 3 red balls. * On IWB teacher to make / download a concentration game where students have to match groups with ‘the same’ number of objects in them. * Teacher to show students a numeral card and students have to make a group of items that have the same number of things shown on the numeral card. * Play ‘**Mingle Mingle’** – Students walk around the room mingling until the bell rings and the teacher calls out a number. Students must then form groups of the given number. If students are unable to join a group they are out. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | Three children went to a birthday party. Each child got 2 lollies each. How many lollies did the children have altogether? Make similar problems but link them to the current focus for learning in HSIE, Science or English to give them context for your class group. E.g. Transport Unit: There were 6 cars in the car park. There were 4 people in each car. How many people were there altogether? | | |
| 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, IWB, Counters, Numeral Cards, Individual whiteboards, Computer Programs – Kidpix, Word, Rainforest Maths  http://nswcurriculumsupport.wikispaces.com/Stage+1 | | |

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| How Many Teacher makes groups and rows of objects and ask students to describe these, e.g. “Three groups of four”   * Students working in pairs make and describe groups and rows for each other * Ask students to find the total number of objects in groups or rows * Students can repeat the activity using boundary cards.   4 groups of  1          Playground   * Students find equal groups in the school playground and find the totals. E.g. There are two rows of 5 cars. That’s 5 plus 5 and that makes 10 altogether.   Craft   * Students make pictures of rows and groups and make labels to describe what they have made,   Beads   * Students can make strings of beads using two colours and find the total number of beads by counting the groups.   Arrays   * Students make arrays by arranging their rows of objects to make rectangular patterns. Student to label their arrays e.g. 3 rows of 2 * Students use Kidpix or Word programs to make equal groups or equal rows and label them. | LEARNING SEQUENCERemediationES1 | * **Echidnas** (DENS activity p131)   Children to place toothpicks in plasticine to make echidnas that have the same number of spikes. At this stage, students may be matching a numeral card with the number of spikes counting 1:1 to check that each echidna has the same number.  Each day change the stimulus. E.g. Use buttons in containers, Teddy bears on a plate etc. |
| LEARNING SEQUENCES1 | Do **Echidnas** (DENS activity p131) but employ skip counting to find the total number.  **Ladybirds Activity** (DENS activity p133) – placing equal dots / counters on ladybirds to encourage skip counting by 2.   * **Arrays** (DENS Activity p189) Organise students into pairs. Provide students with counters. Instruct one of the pair to make a simple array no larger than 5 by 5. The student briefly shows the array to their partner before screening it with paper or cardboard. The other student attempts to construct the array pattern with their counters. The students should then compare arrays and then find the total number of counters in their array. * **Investigation:**   Give students a number card and ask them to investigate how many different equal groups they can make using the concrete material. E.g. You are looking for as many different combinations that are possible. Students should label each group.   * **Popsticks Drop:** Drop a pile of popsticks onto the floor and tell students we are going to count them to find the total number.Ask students to count them and observe the strategy they use. Discuss the most efficient strategy hopefully getting the students to discover bundling the popsticks into equal groups then equal rows and then to skip count to find the total. |
| LEARNING SEQUENCEExtensionEarly S2 | * Ask students to make equal groups and end equal rows using larger numbers. |
| **EVALUATION & REFLECTION** | Students will be asked to make groups that are the same size and describe them.  Students will be asked to give the total amount and asked to match a label to the group.  Students will be asked to represent (make or draw) E.g. two groups /rows of five objects.  **Student Engagement Achievement of outcomes**  **Resources Follow up** |