**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 14-15 | STRAND: Numbers and Algebra | **SUB-STRAND:** Multiplication and Division 2 | **MA1-1WM**  **WORKING MATHEMATICALLY:** |
| OUTCOMES: | | **MA1-1WM Students describe mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols** | | |
| **CONTENT:** | | Solve multiplication and division problems using objects, diagrams, imagery and actions  Record answers to multiplication and division problems using drawings, words and numerals eg 2 rows of 5 is 10  Model division as repeated subtraction | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | |  | | |
| WARM UP / DRILL | | Teacher plays music. Students walk around and when the music stops the teacher holds up a number card and children have to make a group of that number. Then the teacher and students complete the sentence on the board, “\_\_\_ groups of \_\_\_ make \_\_\_\_” Remainders can sit out but can come back to the game by helping to create the sentence on the board. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | How many cars will be in each car park if twenty toy cars are to be shared  among the five car parks. | | |
| 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 | | Counters, tens frames, hundreds charts ,pegs | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Hundreds Chart practice**   Starting at a given number counting forwards and backwards by 1’s, 2’s 5’s, 10’s on and off the decade.   * **Activity**   Children have individual charts up to different numbers dependent on their abilities, where they have to fill in the numbers when skip counting.   * **Activity**   Put children in groups of 3 with approximately 30 counters. Ask students to make particular groups divisible by 2 and 5 eg. 3 groups of . Students then put up their hands to give the total and show their groups.   * **Demonstrate how to record groups on the board**   eg. 3 x 5 = 15, introducing the multiplication symbol but not focusing on it as it will be learnt more thoroughly later.   * **Combining and counting equal groups**   Place out ten 2-dot cards. *Show me 2 dots. Now 2 more dots. How many dots altogether? Now 2 more dots. How many is that altogether./ can you put them in a pattern?* Teacher to assist student to make array. *Now 2 more. How many is that?* Teacher models counting by 2’s *2,4,6,8.* Continue adding dots and counting with students. Students may find total by using repeated addition.   * **Repeat with 3-dot cards and 5-dot cards to model skip counting and making arrays.**   Discuss with children the number of groups/rows and that the groups are equal. Encourage children to count by 2s, 3s, etc according to the group size.   * **Car Parks**   This activity can be used to model division as sharing and division as grouping. In a group of five, each student is given a piece of paper to represent a car park. The teacher poses the following questions:   * ***Sharing***   How many cars will be in each car park if twenty toy cars are to be shared  among the five car parks (ie the five pieces of paper)?  Possible questions include:  How many cars are there to be shared?  How many cars are in each car park?  The teacher models recording the activity. eg 20 shared between 5 is 4, or 20 ÷ 5 = 4.   * ***Grouping***   How many car parks will be required for 10 cars if there are only to be 2 cars in each car park? The teacher models recording the activity.  eg 10 – 2 – 2 – 2 – 2 – 2=0, or 10 ÷ 2= 5 | LEARNING SEQUENCERemediationES1 | * **Pegging clothes**   In groups of six, each student is given four pegs to attach to the edge of their clothing Students are asked to count the total number of pegs in their group. They are encouraged to do this by counting each pegs quietly and counting the last peg on each piece of clothing aloud. Students are then asked to record the numbers spoken aloud.   * Students have charts up to 50 and count by 2’s, 5’s and 10’s * Children work in groups of 3. * Have less children in each group and vary the numbers of pegs on each piece of clothing so they are counting by 2’s instead of 4’s * Students have charts up to 20 and skip count by 2’s and practise writing the numbers * Have children work with only one other person and adjust the numbers accordingly.   Vary the number of children in the group and the number of pegs pegged to each piece of clothing, so they are counting by 5’s, 10’s etc  Students have charts up to 100 and count and fill in the numbers counting by 2’s , 5’s and 10’s  Children are asked to record the totals in the number sentence. |
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| LEARNING SEQUENCES1 | **Investigation**   * **How many Equal Groups?**   Give the children a collection of objects and tell them how many needs to be in each group. E.g. *Here are 10 lollies and here are some bowls. Each bowl needs 2 lollies. Put two lollies in each bowl. How many bowls have two lollies?* **Repeat for 12 and 4, 15 and 3, 20 and 5.** Encourage students to work with whole groups when recognising the items, and to use the appropriate number name for each whole group rather than referring to individual items.   * **How many will each person get?**   Give students a predetermined number of counters and tell them how many people they need to share them between. E.g. *Here are 8 counters. Here are 4 people. Can you share the counters out so that each person gets an equal share? How many counters does each person get?* Repeat for 6 and 3, 12 and 4, 10 and 2, 12 and 6. **Encourage children to use systematic sharing strategies. Children may count each group by ones from one to confirm that he number in each group is the same** |
| LEARNING SEQUENCEExtensionEarly S2 | **.**   * As the formal recording of number sentences for multiplication and division including the use of symbols is not introduced until stage 2 this can be n extension for the above activities. |
| **EVALUATION & REFLECTION** | Children discuss and record their investigations on paper or in their books. Ask them what they have learnt and get them to write it as a reflection.  **Student engagement Achievement of outcomes**  **Resources Follow up** |

* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.
* Assessment rubrics or marking scale should be considered.