**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 3 | STRAND:Measurement and Geometry | **SUB-STRAND:**  Mass 2 | **WORKING MATHEMATICALLY:**  MA1-1WM MA1-4WM MA1-3WM |
| OUTCOMES: **MA1-12MG** | | **Measures, records, compares and estimates the masses of objects using uniform informal units** | | |
| **CONTENT:** | | **Compare the masses of objects using balance scales**   * use uniform units to measure the mass of an object by counting the number of units needed to obtain a level balance on a pan balance * select an appropriate uniform informal unit to measure the mass of an object and justify the choice (Problem Solving**)** | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Can students put different objects in the pans of balance and state which object is heavier? | | |
| WARM UP / DRILL | | * Worksheet – Language of mass | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | |  | | |
| 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 | | Worksheet – Language of mass | | |

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Revise how to use an equal arm balance.  * Introduce activities and explain what to do and how to record. * Students will work in groups with an equal arm balance to complete assigned tasks. * Students will record and discuss findings. * Students discuss difficulties using equal arm balance, material or items. * Whole class discussion on the conservation of mass. * Students will find out how many identical units will balance a given mass. * Students suggest appropriate units to measure and explain why some unit are better than others. * Students have a recording book to record findings and activities. * Opportunities should be provided for free play using balance beams. | LEARNING SEQUENCERemediationES1 | * Students are each given a bag containing a mass. Students find a partner who has a bag with about the same mass as theirs. |
| LEARNING SEQUENCES1 | * **Equal Masses:** * Choose an object. Students collect things from around the room that might combine to have the same mass as an object, eg. The duster has the same mass as three pencils and four rubbers. Repeat activity many times, measuring the mass of different objects * **Choose the unit:** * Provide a selection of materials suitable as informal units. Ask students to select the most appropriate unit to measure items such as a box of pencils, a stapler, tec. * Assessment:   Ask students to choose an appropriate unit to measure a given object. Eg light units to measure light objects and heavier unit to measure heavy objects.  Students state what things they would choose to measure the mass of a book and why. |
| LEARNING SEQUENCEExtensionEarly S2 | * Finding the difference: Using a balance beam. * Students select different objects, using the same measuring unit eg connecting blocks   Students find the difference between two objects and record their finding. It takes 10 blocks to make the scissors and glue stick weigh the same” |
| **EVALUATION & REFLECTION** | **Student Engagement: Achievement of Outcomes:**  **Resources: Follow Up:** |