**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 1 | 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**   * Compare and order the masses of two or more objects by hefting and check using a pan balance. | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Can students use their bodies to act as balance beams. Each student selects objects around the room and demonstrates how a balance beam would respond with an object in each hand. Selected student respond by saying ‘The book is heavier than the duster” | | |
| WARM UP / DRILL | | * Students attempt to make a balance beam using a ruler and a pencil. They attempt to balance two rubbers / pencils. | | |
| 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 | |  | | |

**TEACHING AND LEARNING EXPERIENCES**

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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 sort a variety of objects into light – heavy - the same * **Use comparative language: heavier than, lighter than, heaviest, lightest** |
| LEARNING SEQUENCES1 | * It is assumed that students should know phrases like "is about the same as", "is heavier than" and "is lighter than". * **Heavier, lighter or the same?** * Each day have a small group of children experiment with the equal arm balance and a variety of materials. Record results on a prepared sheet ‘ The \_\_\_\_\_\_\_\_\_\_ is heavier/lighter than the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ‘ * Students select a variety of objects from around the classroom. By lifting and hefting and checking with the pan balance, place the objects in order from lightest to heaviest. |
| LEARNING SEQUENCEExtensionEarly S2 | * Give opportunity for students to investigate 1Kg, 500g and 100g masses. Students need to discover that two 500g is the same as 1kg. * Find objects to weigh with the weights. |
| **EVALUATION & REFLECTION** | **Student Engagement: Achievement of Outcomes:**  **Resources: Follow Up:** |