**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.
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| 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”
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| 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**
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| 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.
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| LEARNING SEQUENCEExtension Early 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.
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| **EVALUATION & REFLECTION** | **Student Engagement: Achievement of Outcomes:****Resources: Follow Up:**  |