**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 2 | STRAND: Measurement and Geometry | **SUB-STRAND:** **LENGTH 1** | **WORKING MATHEMATICALLY:**  **MA2.1WM, WA2.2WM, WA2.3WM** |
| OUTCOMES: MA2-9MG | | **Measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures.** | | |
| **CONTENT:** | | **Measure order and compare objects using familiar metric units of length (ACMMG061)**   * Estimate lengths and distances using metres and centimetres and check by measuring * Explain strategies used to estimate lengths and distances, such as by referring to know length such as hand spans. | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Recap of the units of length (m and cm) and their relationship to each other. * Practical activity and worksheet * Estimate the length of objects and distances using appropriate units of length, centimetre and metre. * Measure using a ruler/tape measure/trundle wheel using cm and metres. | | |
| WARM UP / DRILL | | * How to use a ruler or tape measure. * Start from the 0 mark, not the 1cm mark. * How wide is your worksheet? How long is your pencil? | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | Using a couple of objects, measure and record their length in m and cm. | | |
| 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 | | Metalanguage labels and displays. Rulers, tape measures and trundle wheels. String and other objects to represent informal  units of measurement. | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * Define and reinforce the language and abbreviations used in the unit: metre (m), centimetre (cm), millimetre (mm), shorter, longer, taller than, measure, length, width, perimeter, half, more than/less than a half, step, stride, edge, around, outside… * Teach the skill of measuring from the zero or butt of the ruler. * Teach and review the definition of the metre and centimetre and how they relate to each other. * Teach and review the skill of estimating lengths and the importance of this skill in determining which unit of measurement is required. * Explain and demonstrate how to measure lengths (informally ad formally) and explain real life practical applications for this knowledge and these skills. | LEARNING SEQUENCERemediationS1 or Early S2 | * Estimate the length of objects with predetermined informal units of length (steps for metres/hand spans for centimetres). Build up to the understanding of the need for formal units of measurement such as the centimetre and metre.   “1 metre is similar to a long step.” “1 centimetre is similar to the width of your little finger.”   * Use 1 metre lengths of string for students to compare lengths and perimeters of objects.   Students can use “half” or ‘1/2” in their recording of lengths.  Measure a desk length to the nearest metre and discuss ideas about measuring the part left over. |
| LEARNING SEQUENCES2 | * Investigation:   Students make a chart of things that have a dimension of 1 cm, e.g. the width of a finger, thickness of a book, pencil or eraser, length of an insect, etc.   * Cut a one metre streamer into 5 random lengths. Arrange the pieces in order and measure each strip to the nearest centimetre and add the lengths together. Discuss. * Assessment:   Estimate and then measure the lengths of body parts to the nearest cm, e.g. finger, foot, hand span, collar size. Record estimates and measurements in a table. |
| LEARNING SEQUENCEExtensionLate S2 or Early S3 | * Students can measure lengths of various objects in metres and centimetres.   Students can measure lengths using combinations of metres, centimetres and millimetres. |
| **EVALUATION & 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.