**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 1 | STRAND: MEASUREMENT AND GEOMETRY | **SUB-STRAND:** **LENGTH 1** | **WORKING MATHEMATICALLY:** MA1-1WM & MA1-3WM |
| OUTCOMES: MA1-9MG | **Measures, records, compares and estimates lengths and distances using informal units metres and centimetres.** |
| **CONTENT:**  | **Measure and compare the lengths of pairs of objects using uniform informal units.*** Use uniform informal units to measure lengths and distances by placing the units end-to-end without gaps or overlaps.
* Select appropriate uniform informal units to measure lengths and distances, e.g., paper clips instead of pop sticks to measure a pencil, paces instead of pop sticks to measure the length of the playground.
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Compare directly the lengths of two objects noting whether students are using the same starting point.
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| WARM UP / DRILL | * Find a friend taller then you.
* Find another friend shorter than you.
* Look for a friend about the same height.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | What would be an appropriate unit of measurement to measure a person’s height? |
| 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
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| RESOURCES | Paper clips, pop sticks, straws, toothpicks, string, lego bricks, dowel sticks, paper, pencils, scissors, glue stick, eraser dictionary, magazines, streamers, pictures of cartoon characters |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Explicitly communicate lesson outcomes and work quality.* **Teach and review** measurement strategies i.e., placing units end-to-end without gaps or overlaps. Discuss estimation and checking strategies.
* **Model language** e.g., tall, taller, short, shorter, long, longer, wide, wider, fat, fatter, straight, straighter, low, lower, high, higher, thick, thicker, about the same, end-to-end, side-by-side, as tall as, not as tall as, width, length.
* **IWB mathletics** – measure objects using ruler, check.
* **Length Hunt**  - Find objects which are taller than this glue stick, not as long as your pencil, shorter than your little finger, about the same length as your eraser, as thick as a dictionary or as wide as a magazine.
 | LEARNING SEQUENCERemediationES1  | * Compare lengths from the same starting point e.g., students choose two streamers of different lengths and paste them onto a sheet of paper.
* Look for and talk about objects that are longer, shorter, taller, wider, near and far in the classroom and outside.
* Estimate which is longer, a shoe or a pen etc. Check by laying side-by-side and end-to-end.
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| LEARNING SEQUENCES1 | **Whole Class Instruction and Modelled Activities*** **How Big is Your Foot** – Students draw an outline of their shoe and mark the length to be measured by using markers such as a green dot to start and red dot to stop. Students select an informal unit to measure the length of their shoe print. Students repeat the process using a different informal unit and discuss why different results were obtained. Teacher demonstrates how to record results.
* **Measuring Cartoon Characters** **-** In pairs, students are given large pictures of cartoon characters. They select and measure the length of different parts of the cartoon character e.g., the length of the leg. Students identify and mark the starting point of each length with a green dot and the finishing point with a red dot. Students select informal units such as toothpicks, pop sticks, and paper clips to measure, find a total by counting, and record their work. Students then choose a different informal unit to measure the same length and compare the result to that obtained using their first unit.
* **Investigation-Questions**
1. Why did you get a different total for pop sticks and paper clips?
2. Which informal unit was the most appropriate to measure the length of the leg?
3. How will you record what you have found?
* **Ordering Lengths** – Students guess which is the widest of three objects of similar width that cannot be easily moved e.g., the teachers desk, the window, the cupboard. Students predict the order of the objects in terms of their width and check their prediction by measuring. Students use drawings, numerals and words to record their method and results.
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| LEARNING SEQUENCEExtension Early S2 | * **Longer Than but Shorter Than** – Students are asked to find as many objects as they can that are longer than three pop sticks but shorter than four pop sticks. The teacher observes students’ methods. Students record their methods and findings.
* **Questions**
1. Can you show me how long you think the object will be?
2. Can you make something that will help you to measure the objects quickly?
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| **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.