**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| **TERM:**  | **WEEK:** 2 | **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.*** Measure the lengths of a variety of everyday objects, e.g., use handspans to measure the length of a table.
* Explain the relationship between the size of a unit and the number of units needed, e.g., more paper clips than pop sticks will be needed to measure the length of a desk.
* Record lengths and distances by referring to the number and type of uniform informal unit used.
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| **ASSESSMENT FOR LEARNING**(PRE-ASSESSMENT) | * Estimate how many paperclips fit along the length of a desk. Check
* Q. What would be a more appropriate unit of measure to use?
* Possible answers handspan, pencils, pop sticks.
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| **WARM UP / DRILL** | * Using cut out foot shape, measure the length of desk. Compare results and give reasons for discrepancies i.e., different sized feet.
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| **TENS ACTIVITY****NEWMAN’S PROBLEM****INVESTIGATION**  | * **Lengths –** Cut lengths of paper to match distances around the foot, head and arm. Place the lengths in order of length. Discuss findings.
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| **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** | Cut out foot shapes, paperclips, paper, pencils, scissors, pop sticks, chalk, handprint, string/ribbon, lego blocks,  |

**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 and estimation and checking strategies.
* **Model language** e.g., length, distance, end-to-end, side-by-side, gap, overlap, measure, record, compare, informal units, handspan., near, far, furthest, longest, shortest. centimetre
* **Explain differences** between distance and length. Length is the measure of object from one end to the other. Distance measures the interval between two objects or points.
* **Activity** ask for comparisons between lengths and distances.
* Find objects in the playground which are about the same height, width or length. Find objects with are closer/further away.
 | **LEARNING SEQUENCE**Remed ES1  | * **Body Parts –** Cut lengths of ribbon or string to match distances around the ankle, head and wrist. Place the lengths of ribbon in order of length. Discuss findings.
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| **LEARNING SEQUENCE****S1** | **Whole Class Instruction and Modelled Activities*** **How Many Hands -** In small groups, students make a tape measure that is calibrated using a handprint as a repeated unit. This is done by tracing the hand of one group member. The teacher uses the photocopier to make multiple copies of the print for students to lay end-to-end and glue onto a long strip of paper. Students use this tape to measure objects in the room e.g., desk, the window, a chair, a bookcase. Students record measurements on a large class chart. As a whole class, students discuss their findings and explain:
1. Why different groups obtained different measurements for the same object.
2. Their method for measuring.
3. How measurements were determined if the length of the object involved fractional parts e.g., 4 handprints and 1-2 left over.
* **Investigation- Curves –** Students use chalk to draw a variety of curves on the ground. They measure the length of each curve using student-selected informal units. Students record and compare results. Possible questions include:
1. What can you use to measure the length of these curves?
2. Why did you choose that unit?
3. Which was the best unit to measure with and why?
4. Did you have any part left over when you measured the length?
5. How would you describe the part left over?

**Straw Toss -** Who can throw a straw the furthest; how much further is it than the next best throw?Measure and record the distance thrown, using a 10cm strip. Find the difference between the longest and the shortest throw.1. Measure precisely by repeating one unit.
2. Know that lengths (not marks or spaces) are counted.
3. Use a 10cm strip as a unit to measure length.
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| **LEARNING SEQUENCE**Extension Early S2 | * **Body Parts –** In small groups, students use body parts as units of length. They record the results in a table and compare different students’ measures of the same dimension. Possible questions include:
1. Were your measurements the same? Why not?
2. What could you use to measure more accurately?
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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.