**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 3 | STRAND: Measurement and Geometry | **SUB-STRAND:** Length | **WORKING MATHEMATICALLY:**  MAe-1WM MAe-3WM |
| OUTCOMES: MAe-9MG | | **Describes and compares lengths and distances using everyday language.** | | |
| **CONTENT:** | | **Use direct and indirect comparisons to decide which is longer, and explain their reasoning using everyday language (ACMMG006)**  - Identification of the attribute-Make direct comparisons of length  -compare lengths directly by placing objects side-by-side and aligning the ends for comparison by establishing a baseline  - explain why the length of a piece of string remains unchanged, whether placed in a straight line or in a curve (Communicating,Reasoning) | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Students sort objects of various lengths into long/short piles (Sort Me- Teaching Measurement p25) * Students identify ribbons, braids, streamers and pieces of string that are longer/shorter than a specified number of centicubes they have joined together. Students use modelled metalanguage, longer than shorter than, to explain their answers | | |
| WARM UP / DRILL | | * Students are given a variety of materials and they are encouraged to compare their lengths, by placing objects side- by- side and aligning the ends. Students trace objects and record their results informally. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | Students choose five objects of different length from things found in the classroom. They compare the lengths of the objects. Students demonstrate or explain how the lengths of the objects were compared and draw a picture to record their results. | | |
| 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 signage and environmental print, various sized objects of differing height and length for sorting, wooden  blocks, play dough, string, wool, streamers, ribbons ,Lego bricks, Duplo, paper, cardboard, computer software  2002 Syllabus p118 Teaching Measurement ES1 andS1 – (refer to this for more detail ) Mathematics K-10 Syllabus  Volume 1 | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Explicitly communicate lesson outcomes and work quality  * **Define and reinforce metalanguage used in the unit. Vocabulary includes terms such as** Length, end, end to end, side by side, long, longer than, longest, short, shorter than, shortest, high, higher than, highest, tall, taller than, tallest, low, lower than, lowest, the same as, near, nearer, far, further, close, closer,  Identification of the attribute; Long and Short. Teach how to measure, using modelling and explicit instruction. Class discussion: Students make direct comparisons of length of a group of familiar objects.Length vocabulary: long, high, tall, short or low; the same as. Students create a display of various objects and describe their length.Group activities: Students are given various objects and they asked to,Put their sides together (aligning their ends) of various objects to compare their lengths.Straighten a curved or bent length to check if two lengths are the same | LEARNING SEQUENCEPre Found Skills | * In pairs, students experiment with various materials to explore the concept of length.eg build a tall/short tower. |
| LEARNING SEQUENCEES1 | * Investigations: Teaching Measurement ES1 and S1 * Who is tall, who is short? Students choose a classmate to stand beside. Students compare their heights by looking in a mirror and asking another pair of students to assist. ”Who is tall? “ ”Who is short?” Students draw a picture of themselves with their partner and label the two figures as tall and short. * Am I taller or shorter? Students move independently around the classroom and identify three objects that are taller than, themselves. Students record results by drawing and labelling various objects. * Short and long paths and towers –Students use wooden blocks to make paths around the classroom and discuss whether they have made long or short paths. * Longer than, shorter than, our string- Students in pairs cut a piece of string and move around the classroom to find as many objects as they can that are the same length as, longer than, or shorter than, the string. Using knowledge and strategies, students put two lengths side by side to compare their lengths and straighten a curved or bent length to check if two lengths are the same. Students record their findings by drawing and labelling. * Sort me! Given a collection of lengths of braid, streamers, cardboard strips, or ribbon, students sort them into a long pile and a short pile. Students record their lengths and label as long and short. Using knowledge and strategies, students put to lengths side by side to compare their lengths and straighten a curved or bent length to check if two lengths are the same. * ASSESSMENT-Students are given a collection of objects of different sizes, lengths, and materials They are asked to sort the objects according to a different attribute. Students use an attribute of their own choosing to sort objects. They use metalanguage, knowledge and skills to explain their answers. |
| LEARNING SEQUENCEExtensionS1 | Investigations – use uniform, informal units to estimate and measure lengths and distances by placing the units end-to-end without gaps or overlaps. Record measurements by referring to the number and type of informal or formal units used. Compare the lengths of two or more objects using appropriate informal units and check by placing the objects side-by-side and aligning the ends.  Recognise the need for metres and centimetres, and use them to estimate and measure length and distance. |
| **EVALUATION & REFLECTION** | Check that students are using terminology long, short, the same as. Place two lengths side by side to compare length. Hold two items up that are different lengths  Questioning: What are the words we use to describe length?, What can you tell me about the lengths of these two items?, How do you work out which is long or short?, Why is it important to make sure we match up one end of both items we are comparing?  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.