**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 4 | 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)  - predict whether an object will be longer or shorter than an another object and explain the reasons for this prediction (Communicating, Reasoning ) -Identification of the attribute, order two or more lengths by direct comparison  - compare lengths indirectly by copying a length, using the same strip of paper to compare lengths.  - record length comparisons informally by drawing,tracing,or cutting and pasting, and by using words and numerals | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Students are given a range of objects and they are asked to predict if an item is longer or shorter than a given object. | | |
| WARM UP / DRILL | | * Students sort items into long/short groups. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | Students are given various items and they are asked to make predictions and then determine the most suitable strategies and choose appropriate units to measure them. | | |
| 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 –pg24 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** * 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 Activity- students order two or more lengths of various objects by direct comparison * Students make graphs, charts and displays. They report the results using comparative language, e g longer, higher, taller than, shorter or lower than, the same as, shortest, longest. Explicit instruction and modelling to enable students to   - ensure that the ends of various objects are aligned for comparison, by establishing a baseline.  - compare lengths systematically and explain why a length fits into a particular ordering | LEARNING SEQUENCEPre Foundation Skills | Students:   * Develop concepts such as big, tall, long and high. * Explore and experiment with a wide variety of materials through stacking, building and joining activities. * Use their own language to describe, report and share with others what they are doing and what they have done. * Develop metalanguage related to length. |
| LEARNING SEQUENCEES1 | Investigations: Teaching Measurement ES1 and S1   * Stand in order-Small groups of students are ordered from tallest to shortest, e.g. students waiting to tell news, students who are wearing shorts, students who have an apple for lunch. * Straws in order-Given a number of straws of different length, students put them in order from longest to shortest. Straws are used because they will not stand up so students have to decide which end will be the baseline. These ends of the straws should be together. * Cutting equal lengths-Students cut a length of string or streamer and then use this to cut a second piece the same length. Compare the lengths with others in the group and order from the shortest to the longest. Note: is the streamers or string tend to curl or kink, it may be necessary to sticky tape these to the desk to compare the lengths. * Order the group-Order from longest to shortest, three or more lengths which students have to straighten out and lay side by side, e.g. a skipping rope, a length of string and a rolled up streamer. Record and label the lengths as *longest* and *shortest*. Report the results using comparative language. * Gorilla Arms-Students in pairs or a small group order the group members by length of outstretched arms. Compare arms in pairs by matching fingertips on one side as a baseline. Ensure that all members of the group have been matched, to find the order. Record and label. |
| LEARNING SEQUENCEExtensionS1 | * Investigations-Who has the biggest head? (page 34 ,Teaching Measurement: Early Stage 1 And Stage 1)   Using string or a strip of paper, students work in small groups or pairs and measure around their heads without overlap. Students measure the length in units (cubes, paperclips, etc.) to find who has the biggest head in the group. They record group measurements and the units used. |
| **EVALUATION & REFLECTION** | Check that students are able to describe their ordering, use appropriate terminology, demonstrate the use of a baseline. Discussion-What did you learn today? What do you call it when you make sure that all of your lengths start at the same position?  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.