**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 1 | STRAND: Measurement and Geometry | **SUB-STRAND: Length 1** | **WORKING MATHEMATICALLY:** MA2-1WM & MA2-2WM |
| 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.*** Measure lengths and distances using metres and centimetres
* Record lengths and distances using metres and centimetres e.g. 1m 25cm
* Compare and order lengths and distances using metres and centimetres
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Have students work in groups to build a tower (using blocks) that has to be a specific measurement tall e.g. 38cm or marking out lengths using metres.
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| WARM UP / DRILL | * Students work in pairs to list, under the headings ‘centimetres’ and ‘metres’, as many items as they can think of that would be appropriately measured by either.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Using a range of objects estimate and measure their lengths in cm. What is this in mm? |
| 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 | Metre rule, trundle wheel, tape measure, 30cm ruler, mathematical terminology posters, pencils, paper, blocks, stop watches, markers |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Define and emphasise appropriate terminology for the sub-strand e.g. long, high, tall, short, the same as, longer than, shortest, longest, taller than, metres, centimetres.* Teach and review units of measurement; metres (m) and centimetres (cm). Demonstrate using measuring implements accurately including tape measure, 30cm ruler, metre rule, trundle wheel.
* IWB Game – ordering lengths i.e. tallest to shortest, furthest distance to closest distance; then making comparisons.
 | LEARNING SEQUENCERemediationS1 or Early S2 | * Measure different areas of the school from same starting point using trundle wheels. Determine longest and shortest by comparing measurements.
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| LEARNING SEQUENCES2 | Investigations* Use a tape measure to measure a variety of objects around the school environment to the nearest centimetre e.g. 1m 38cm. Have students order them from shortest to longest.
* Students work in pairs to find three items in the classroom which have a total length of 25cm. Students record their findings by drawing the items, labelling with the measurements in centimetres; and showing how the three lengths were added to make a total of 25cm.
* Students work in groups/pairs to design a dinner table which will seat four students along each side, with enough space to eat comfortably. Students draw a diagram of the table with the listed reasons for the dimensions.

Assessment* Students work in groups to measure, record and compare body parts e.g. height, head size, wrist, arm length. Students record measurements to nearest centimetre.
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| LEARNING SEQUENCEExtension Late S2 or Early S3 | * Students work in pairs to see how far they can run in 10 seconds. They will measure and record to 2 decimal places.
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| **EVALUATION & REFLECTION** | Student Engagement: Achievement 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.