**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| **TERM:**  | **WEEK:** 8 | **STRAND: Measurement and Geometry** | **SUB-STRAND: Length 2** | **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:**  | **Use scaled instruments to measure and compare temperatures.*** Identify temperature as a measure of how hot or cold something is
* Use everyday language to describe temperature, e.g. ‘cold’, ‘warm’, ‘hot’
* Recognise the need for formal units to measure temperature
* Use a thermometer to measure and compare temperatures to the nearest degree Celsius
* Record temperatures to the nearest degree Celsius using the symbol for degrees (0)
* Use a thermometer to take and record daily temperature readings (Communicating)
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| **ASSESSMENT FOR LEARNING**(PRE-ASSESSMENT) | * Order pictures of everyday objects i.e. ice cream, kettle, cup of tea, cupcake, juice, bath, pool, from coldest to hottest.
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| **WARM UP / DRILL** | * Students work in pairs to match pictures of objects i.e. boiling water, pool, ice, a drink in the fridge with the temperatures given (on flash cards) i.e. boiling water – 100 degrees celsius.
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| **TENS ACTIVITY****NEWMAN’S PROBLEM****INVESTIGATION**  | * Matching activity- temperatures displayed on a thermometer compared to food and drinks.
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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** | Thermometers, thermometers printed on paper for recording, pencils, paper, IWB, flash cards for warm up drill |

**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. temperature, degrees, Celsius, thermometer, hot, cold, hottest, coldest, warm.
* Demonstrate how to use and read a thermometer.
* Demonstrate how to record on a thermometer (on paper).
* IWB Game – ordering pictures of objects from coldest to hottest.
* IWB Game – ordering temperatures for different objects/ days from hottest to coldest.
 | **LEARNING SEQUENCE**RemediationS1 or Early S2 | * Use the words very hot, hot, warm, cool, cold and very cold to describe temperatures shown on thermometers.
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| **LEARNING SEQUENCE****S2** | * Use the numbers 1-8 to create a scale on the thermometer. Use the following words to describe the scale: freezing, boiling, very cold, very hot, cold, hot, cool and warm.
* Measure the temperature throughout the day at specific intervals and record on thermometers (on paper).
* Investigation: Students measure temperature each day at the same time for one month and then make comparisons i.e. the hottest temperature, coldest temperature, difference between the two to nearest degree.
* Assessment: Compare temperatures inside and outside. Students use a thermometer and measure temperature inside classroom and outside in the sun; record them on a paper thermometer. Write an explanation for the difference?
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| **LEARNING SEQUENCE**Extension Late S2 or Early S3 | * Measure and compare the temperature of places/ countries incorporating below zero temperatures.
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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.