**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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) | | |
| **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. | | |
| **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. | | |
| **TENS ACTIVITY**  **NEWMAN’S PROBLEM**  **INVESTIGATION** | | * Matching activity- temperatures displayed on a thermometer compared to food and drinks. | | |
| **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** | | Thermometers, thermometers printed on paper for recording, pencils, paper, IWB, flash cards for warm up drill | | |

**TEACHING AND LEARNING EXPERIENCES**

|  |  |  |
| --- | --- | --- |
| **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**  Remediation  S1 or Early S2 | * Use the words very hot, hot, warm, cool, cold and very cold to describe temperatures shown on thermometers. |
| **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? |
| **LEARNING SEQUENCE**  Extension  Late S2 or Early S3 | * Measure and compare the temperature of places/ countries incorporating below zero temperatures. |
| **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.