**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: | STRAND: Measurement & Geometry | **SUB-STRAND:** 2D Space 1 | **WORKING MATHEMATICALLY:**  MA1-1WM & MA1-3WM |
| OUTCOMES: MA1-15MG | | **Manipulates, sorts, represents, describes, and explores two-dimensional shapes, including quadrilaterals, pentagons, hexagons and octagons.** | | |
| **CONTENT:** | | **Recognise and classify familiar two-dimensional shapes using obvious features.**   * Identify parallel lines in pictures and the environment and use the term ‘parallel’ to describe such lines * Recognise that parallel lines can occur in orientations other than vertical and horizontal * Give everyday examples of parallel lines, e.g. railway tracks | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | **Pre-Assessment:** Worksheet - Parallel Lines. | | |
| WARM UP / DRILL | | In small groups students arrange their bodies in as many combinations of parallel orientations as they can think of.  Groups take turns to present their findings to the class. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | If Steve had a square, a rectangle, a hexagon and a triangle, how many sets of parallel lines would he be able to find? | | |
| 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 | | Bamboo sticks, various pictures depicting parallel lines and strips of coloured paper, | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Explicitly communicate lesson outcomes and expectations of work quality.** * **Define and Reinforce metalanguage used in the unit** e.g. straight line, vertical, horizontal, parallel * Define and model parallel lines. * Give everyday examples of parallel lines, e.g. railway tracks * Explain and demonstrate that parallel lines can occur in orientations other than vertical and horizontal. | LEARNING SEQUENCERemediationES1 | * Students identify and draw two lines made of straight lines to form roads. They then count how many sets of parallel lines they have drawn. |
| LEARNING SEQUENCES1 | * **Parallel Bamboo Sticks:** Provide each student with a pair of bamboo sticks. Instruct students to position their pair of sticks in different positions and record examples of each orientation on a separate piece of paper. Students share their drawings with a partner and sort their combined drawings into groups. Students explain their groupings to the class. * **Parallel lines in pictures:** Display a variety of pictures to the class. Ask students to identify the parallel lines within each picture. Students locate pictures with parallel lines from magazines, to create a display. * **Students identify parallel lines in the classroom** and within the school grounds e.g. roof beams, table legs, fence posts, mortar, etc. Students discuss and record their observations. * **Weaving Lines: -** provide students with several strips of paper in two colours to weave together. Students identify and comment on the types of lines they have created e.g. straight lines, crossed lines, horizontal lines, vertical lines, parallel lines. * **Investigation:** Student investigate how many parallel lines can be Found on the Australian or other national flags. * **Assessment:** Re-do worksheet - Parallel Lines. |
| LEARNING SEQUENCEExtensionEarly S2 | Students identify parallel lines in regular 2D shapes. |
| **EVALUATION & REFLECTION** | **Student Engagement:** **Achievement of Outcomes:**  **Resources:** **Follow Up:** |