**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 2 | STRAND: Statistics and Probability | **SUB-STRAND: Data** | **WORKING MATHEMATICALLY:**  **MA1-1WM , MA1-3WM** |
| OUTCOMES: MA1-17SP | | Gathers and organises data, displays data in lists, tables and picture graphs, and interprets the results | | |
| **CONTENT:** | | **Choose simple questions and gather responses (ACMSP262)**   * Gather data and track what has been counted by using concrete materials, tally marks, words or symbols   **Represent data with objects and drawings where one object or drawing represents one data value and describe the displays (ACMSP263)**   * Use concrete materials or pictures of objects as symbols to create data displays where one object or picture represents one data value (one-to-one correspondence), e.g. use different-coloured blocks to represent different-coloured cars * Interpret information presented in data displays where one object, picture or drawing represents one data value, e.g. weather charts * Write a simple sentence to describe data in a display, e.g. 'The most popular fruit snack is an apple' (Communicating) | | |
| ASSESSMENT FOR LEARNING | | * Worksheet - Display Data using objects and pictures 2. * Students use pictures of objects as symbols to create data displays where one object or picture represents one data value. | | |
| WARM UP / DRILL | | * Re. Early Arithmetic Strategies Program * Have students write numbers on an empty number line * Finding numbers one and ten before and after a number to 100 (extension to 1000) | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | * **Snowflakes – Problem Solving Activities (page 18)**   Pick a pair of numbers and add them together. Write the numbers and answer. Pick a different pair  of numbers. Write the numbers and the answers. Keep doing it… How many answers can you get? | | |
| QUALITY TEACHING ELEMENTS | | **INTELLECTUALQUALITY** | **QUALITY LEARNINGENVIRONMENT** | **SIGNIFICANCE** |
| * Deepknowledge * Deepunderstanding * Problematicknowledge * Higher-orderthinking * Metalanguage * Substantivecommunication | * Explicit quality criteria * Engagement * High expectations * Social support * Students’ self-regulation * Student direction | * Background knowledge * Cultural knowledge * Knowledge integration * Inclusivity * Connectedness * Narrative |
| RESOURCES | | Mirrors, labels, Book: Eyes in Disguise, cardboard cards, attribute blocks, fun sized box of smarties | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTIONMODELLED ACTIVITIES | GUIDED &INDEPENDENT ACTIVITIES | |
| * **Explicitly communicate lesson outcomes and work quality.** * **Introduce tally marks as small vertical lines representing one object**. Explain how the 5th tally mark groups them. Demonstrate how to record using tally marks in a frequency table. Create one as a whole class. * **Introduce** the frequency table as a table that shows the total of tally marks at the bottom. * **Discuss** which eye colour is most frequent/ less frequent. Encourage students to respond using modeled language. * **Describe** data using comparative language | LEARNING SEQUENCERemediationES1 | * **Whole class activity**   Students use mirrors and discuss which features make them different from or similar to each other. Prior to the lesson, make labels with a description and picture to represent a variety of categories such as gender, hair colour, eye colour etc.   * Students line up in rows behind the appropriate label and discuss the reasons for their choice. Students compare the number of people in each row and answer questions such as: * Which group is the smallest? How do you know? * Does the shortest row have the least number of people? Why? Why not? * Which groups have the same number of students? |
| LEARNING SEQUENCES1 | Investigation:   * Read ‘Eyes in Disguise’ to the class. Students colour in a picture of an eye to match their own. Arrange drawings to **make a picture graph**. Discuss features of the graph – that a picture of an eye is being used to represent 1 person who has a particular eye colour. Experiment with creating a column graph or bar graph. Support students in interpreting the information that is presented * **Frequency Table**. Create a frequency table for the different eye colours in the class. Students represent data with tally marks. * **Attribute Blocks**   Students are given a collection of attribute blocks to sort then graph (e.g. colour, shape, size, thickness etc) Discuss results and method chosen.   * **Written Recordings**   Students are given a fun size packet of smarties and arrange columns according to colour. Photograph student’s results. Insert photographs onto an assessment proforma. Students write asentence to describe their data underneath their photograph e.g. There are more red smarties in my box than blue. |
| LEARNING SEQUENCEExtensionLate S1 | Investigation:   * Display the information from the previous lesson (eye colours). Discuss how the data from the frequency table could be represented in another way (picture or column graph) * Students display this information in a column graph.Ask students to add a title to the graph. |
| **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