**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 and name two-dimensional shapes presented in different orientations according to their number of sides, including using the terms 'triangle', 'quadrilateral', 'pentagon', 'hexagon' and 'octagon'
* Select a shape from a description of its features
* Recognise that rectangles and squares are quadrilaterals
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | **Pre-Assessment****IXL Identify 2D Shapes II** – IWB (whole class)Students Identify 3D shapes using<http://au.ixl.com/math/kindergarten/identify-shapes-ii> |
| WARM UP / DRILL |  |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Draw a picture that has 5 triangles, 3 rectangles and 2 squares. What did you draw?  |
| 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 | Metalanguage signage and environmental print, shapes on coloured card, attribute blocks, patterns blocks, whiteboards, magazines, glue, maths journals and scissors |

**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. Questions and More Questions* Have students sit in a circle. Put out all the shapes from an attribute set and the red trapezium and blue rhombus from a pattern block set.

Model how to play the game *Questions and More Questions*. State that you will think of a block and draw it on a piece of paper. A class member asks ‘yes’ and ‘no’ questions focussing on colour first, then size, and then shape attributes. Remove blocks from the pile as attributes are eliminated; for example: *Is it a red shape? No!* Remove all the red shapes etc. Continue until there is one shape left. Select a student to name the shape and list its attributes; for example: It is a small, thick, blue hexagon. Continue the game with the student thinking of a new block.  | LEARNING SEQUENCERemediation ES1 | * **Shape Sort:** Prepare a variety of different circles, triangles, squares and rectangles on coloured card and have students sort them in terms of their features, i.e. size and shape.
* **Identify a Shape:** Have students identify and name a shape within the classroom. Write the name of the selected shape on the board and ask the student to draw the shape.
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| LEARNING SEQUENCES1 | * **Finding Shapes:** Organise students into pairs. Provide students with magazines and have pairs identify 2D shapes in pictures. Ask pairs to cut the picture paste them onto paper and list the 2D shapes identified.
* **Assessment** - Invite students to record two-dimensional shapes that they know by drawing and labeling them in their maths journals.
* **Investigation:**
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| LEARNING SEQUENCEExtensionEarly S2 | * **Recording Attributes:** Have students record more detailed information about shapes in their maths journals. They should scribe their descriptions next to their drawings. For example, *A trapezium has four sides but doesn’t look like a rectangle or square. A trapezium is a quadrilateral.*
* **BBC Shape Lab:** Students identify 2D shapes *from descriptions of their attributes.*

[*http://www.bbc.co.uk/bitesize/ks1/maths/shapes/play/popup.shtml*](http://www.bbc.co.uk/bitesize/ks1/maths/shapes/play/popup.shtml) |
| **EVALUATION & REFLECTION** | **Student Engagement:****Resources:** | **Achievement of Outcomes:****Follow-up:** |