**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 4 | STRAND: MEASURMENT AND GEOMETRY | **SUB-STRAND:** **AREA 1** | **WORKING MATHEMATICALLY:** **MA1-1WM** |
| OUTCOMES: MA1-10MG | Measures, records, compares and estimates areas using uniform informal units. |
| **CONTENT:**  | **Measure and compare areas using uniform informal units*** Use computer software to create a shape and use a simple graphic as a uniform informal unit to measure its area.
* Record areas by referring to the number and type of uniform informal unit used
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Can the children use an informal unit to measure the area of an object? I.e. place counters or blocks over a shape without leaving gaps or overlapping?
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| WARM UP / DRILL | * Flashcards of different size 2D shapes.
* Hold up 2 different shapes up to the class and have them identify which shape would have the largest area.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  |  |
| 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 | * Access to computers and drawing program
* Access to Study Ladder
* Tessellating shapes
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**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| What is area? How can we measure area?* What shapes are best for measuring area? Why?

Ignition Activity* Students draw a closed shape.

 To indicate the area they colour it in. Compare the area with another child’s shape and estimate, which is larger. Watch a movie on ‘Study Ladder’ about comparing area of uniform informal units. This is a quick refresher on how to measure using uniform informal units.* On the IWB show images of shapes that have been covered with a ‘stamp’ to measure the area of the image.

-Have the children determine if the shape has been covered correctly by the ‘stamp’ i.e. leaving no gaps and not overlapping.-Count how many ‘stamps’ to cover each shape (Measuring area) | LEARNING SEQUENCERemediationES1  | * **Stamping**

Using a computer drawing program, students are given a two-dimensional shape . They choose a ‘stamp’ which is a smaller version of their given shape. The students ‘stamp’ the smaller shape inside the larger one, without gaps or overlapping.Possible questions include:. How many smaller shapes did you fit into the larger shape?. if the stamp was smaller would your answer be the same of different? |
| LEARNING SEQUENCES1 | * **Stamping**

Using a computer drawing package, students are asked to draw a large shape (A). They then select a smaller shape or picture to use as a ‘stamp’. Students ‘stamp’ the smaller shape inside the larger one, without gaps or overlaps.Possible questions include:. How many of the smaller shapes did you fit in your larger shape?. Can you work this out without counting each shape one by one?Students repeat this activity by creating a second large shape (B). They then compare the shapes A and B and determine which is larger. They discuss their method of comparison. Some students may have compared the number of ‘stamps’ on each shape, but if they used different ‘stamps’ they need to reflect on the importance of using the same ‘stamp’ to compare. |
| LEARNING SEQUENCEExtension Early S2 | * **Tessellating Designs**

In Pairs, students create tessellating designs using a computer drawing program.Students use the computer drawing tool to make a shape and then duplicate it to see if it tessellates. Students print their designs and compare them with those made by others.* **Tessellating Shapes**

Issue the children with tessellation shapes in groups. Allow them to create tessellating patterns using a variety of shapes like rectangles, hexagons, squares. Keep in mind it needs to be a **pattern** that fits together with no gaps and no overlapping.  |
| **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.