**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 5 | STRAND:MEASUREMENT 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**   * Estimate areas by referring to the number and type of uniform informal unit used and check by measuring * Discuss strategies used to estimate area, e.g. visualising the repeated unit (communicating, Problem Solving) | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Issue each child with a shape and some unifix cubes, MAB blocks or counters. Ask the children to measure the shapes area. Take notes of the children working, especially those that are not using one uniform informal unit and those that are overlapping and leaving gaps. | | |
| WARM UP / DRILL | | * What can it be?   The teacher poses the problem; ‘I measured an item from our room and found that it had an area of?’   * Children have a guess at what the item may/may not be and discuss why/why not? | | |
| 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 |
| RESOURCES | | Ipad 6, 8, 10, 12 sided dice  2D shapes on A4 paper,  unifix cubes  pencils and paper | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Estimation**   Select a shape or tile to use as a unit to compare the area of different shapes. Estimate the number of units required to completely cover a shape, check and record their results in a table.  Possible questions include:  . Did you have any parts left over?  . What would you call these parts?  . Were these parts included in your count?  . How could you make sure that these parts are included next time?   * **Measure the court**   In small groups children go outside and explore the playground. Looking at handball or basket ball courts.  Children estimate how many of their peers they think will fit inside the shapes.  Students physically measure how many children will fit inside the shapes.  Students repeat the activity using larger shapes that will fir the whole class.  Back in the classroom discuss why less/more students could fit into the same shape. Discuss size/shape of different students.  (This activity can be recorded on an Ipad camera and the children watch their findings back in class)   * **Roll the Die Twice**   Student A rolls a die to find out how many square tiles to put along the top row of an array. Student B rolls the die to find how many rows to make. The teacher encourages students to predict how many tiles will be needed to complete the array.  (work on counting one to one matching, counting by 2’s, 5’s etc) | LEARNING SEQUENCERemediationES1 | * **Estimate and Check**   Students are given a 2D shape and colour the inside, to indicate the area of the shape. Children are given a unit to measure their shape. I.e. counters, unifix cubes, MAB blocks. They then estimate and record their answer. They measure the area, stating the number of informal units used.  Children see if their estimation was close to being accurate. |
| LEARNING SEQUENCES1 | * **Estimate and Check**   Students draw a 2D shape and colour the inside, to indicate the area of the shape. Children choose a unit that they think would be suitable to measure their shape. I.e. counters, unifix cubes, MAB blocks. They then estimate and record their answer. They measure the area, stating the number and type of informal units used. Students discuss if another unit would be more suitable. Students investigate and record findings using other units.  Possible questions include:  . Which informal unit did you find more appropriate to estimate and measure the area of your shape? Why?  . What unit would you use to measure the area of your desktop? Why? How would you do it?  . Can you record your findings?   * **Roll the Die (6 sided) Twice in pairs.**   Student A rolls a die to find out how many square tiles to put along the top row of an array. Student B rolls the die to find how many rows to make. Students estimate how many tiles will be needed to complete the array. Students make the array and record their answers. Students repeat the game at least twice more. |
| LEARNING SEQUENCEExtensionEarly S2 | * **Roll the Die (8/10 or 12 sided) Twice in pairs.**   Student A rolls a die to find out how many square tiles to put along the top row of an array. Student B rolls the die to find how many rows to make. Students estimate how many tiles will be needed to complete the array. Students make the array and record their answers. Students repeat the game at least twice more. |
| **EVALUATION & REFLECTION** | Observation of children’s responses to estimation and encourage language of area throughout the lessons.  **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.