**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: **1** | STRAND:Measurement and Geometry | **SUB-STRAND:**  Area | **WORKING MATHEMATICALLY:**  MAe-1WM & Mae-3WM |
| OUTCOMES: MAe - 10MG | | Describes and compares areas using everyday language | | |
| **CONTENT:** | | **Use direct comparison to decide which shape has a larger area and explain their reasoning using everyday language**   * identify the attribute of 'area' as the measure of the amount of surface * cover surfaces completely with smaller shapes * make closed shapes and describe the area of each shape | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * **Pre-assessment:** Give each student a sheet with 2 rectangles, measuring 6cm x 8cm and 4cm x 10cm. Instruct students to colour the shape with the bigger area. | | |
| WARM UP / DRILL | | * Counting – numbers 1 – 20 – interactive * Revising 2D shapes – especially quadrilaterals. * http://www.topmarks.co.uk - 2D Shape Sort - Tessellations | | |
| 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 | | Paper 2D quadrilaterals in various sizes, paper, scissors, pencils, copied handprint, paint, crayons, different enlargements of shapes, different-shaped or different-sized tiles, envelopes, lids, leaves, tiles, newspapers, drink coasters. **Covering a Giant** – large sheet of paper. | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Explicitly Teach:  * What is area? * Discuss the term “surface” and what a surface? * Identifying the attribute of area as the measure of the amount of surface * Demonstrate and explore using a variety of tactile shapes and surfaces around the classroom e.g. desk top, book covers. * **IWB:**   Using the smartboard make some shapes that can be overlaid and demonstrate whether one has a larger area than the other by dragging. Create a series of shapes | LEARNING SEQUENCEPre Foundation Skills | * **Match the Shape**   Students are given four small pieces of paper, card or fabric. Two pieces are the same size and shape, and two are the same shape but different sizes.  Possible questions include:  . can you find two shapes that are the same?  . how do you know they are the same?  . can you describe how they are the same?  *Extension:* The activity could be repeated for a wider range of shapes in smaller gradations of size. |
| LEARNING SEQUENCEES1 | * **Cover Up**   Students cover a shape with various tessellating and non-tessellating objects such as thin books, pieces of paper, sheets of newspaper, leaves or chip packets.  Possible questions include:  . is the entire shape covered?  . what other objects could you use so that the entire shape is covered?   * Investigation: **Covering a Paper Giant**   The teacher draws a ‘giant’ on a large sheet of butchers’ paper. In small groups, students are asked to cover a part of the giant (eg the pants) with small pieces of paper without leaving gaps. Students discuss whether the entire giant is covered. |
| LEARNING SEQUENCEExtensionS1 | * Cover and Count   Students select one type of object to cover a given shape or area eg envelopes, lids, leaves, tiles, sheets of newspaper. They estimate, then count, the number of objects used.  Possible questions include:  . Why are some objects better than others for covering?  . What can we do about the gaps?  . What can we do with the part left over? |
| **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.