**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK:3 | STRAND:Measurement and Geometry | **SUB-STRAND:**  **Area 1** | **WORKING MATHEMATICALLY:**  **MA3-1WM** |
| OUTCOMES: MA3-10MG | | **Selects and uses the appropriate unit to calculate areas, including areas of squares, rectangles and triangles** | | |
| **CONTENT:** | | **Choose appropriate units of measurement for area (ACMMG108)**   * Determine the dimensions of different rectangles with an acre of one hectare * Record area using the abbreviations for square kilometre and hectare. | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Harris, Gloria. Turner, Garda (2006) Targeting Maths Student Assessment Portfolio Year 6  *Area p. 24.* | | |
| WARM UP / DRILL | | * In pairs students look through real estate magazines provided by teacher. Each pair need to find advertisements for 3 properties smaller than a hectare, and 3 larger than a hectare. Share findings with class. | | |
| 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 | | * Colour magazines collected from local real estate offices (readily available for collection at most local real estate agent) * McSeveny, A. Parker, Alan (2005) New Signpost Maths , 4.22 , *4:28 Square kilometre* p. 140 * Harris, Gloria. Turner, Garda (2006)Targeting Maths Student Assessment Portfolio Year 6  *Area p. 24* | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Lesson 1 Revise previous lessons on square kilometres and hectares. Class discussion on why we need larger units of measurements.   * **Lesson 2**   Discuss what other shaped rectangles have an area of 1 hectare. Ask students to name some local places that would be about 1 ha.  Give students some real-estate catalogues. Show the students examples of where hectares are used to describe properties.   * **Lesson 3**   Discuss how very large areas are measured (ie square kilometres.). Ask students for examples.  Revise that a square km is 100 hectares or 1 000 000m2 . | LEARNING SEQUENCERemediationS2 or Early S3 | * **Lesson 1**.   Following class discussion students individually complete worksheets  McSeveny, A. Parker, Alan (2005) New Signpost Maths *4:17 Hectares* p. 129 |
| LEARNING SEQUENCES3 | * **Lesson 2**   In small groups students cut out advertisements from real estate magazines. Students group the ads according to the size of the property, and also the shape of the property. Discuss the results with the group.   * **Lesson 3:**   In pairs students research the size of each Australian state. Also they could research facts about the size of a variety of countries. Find the largest country in area, and the smallest country in area. Record finding in workbooks.  Individually complete worksheet from  McSeveny, A. Parker, Alan (2005) New Signpost Maths *4:28 Square kilometre* p. 140 |
| LEARNING SEQUENCEExtensionEarly S4 | * **Extension:**   Students research the area and the length of the boarders of each Australian state. And rank these in order of size. Students could also compare the population of each state and and rank the state by population size. Students share their findings with the class |
| **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.

 http://www.teachingideas.co.uk/maths/files/areaofrectangles.pdf