**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 3 | STRAND: Measurement and Geometry | **SUB-STRAND:** Position | **WORKING MATHEMATICALLY:** MA3-1WM |
| OUTCOMES: MA3-17MG | | **Locates and describes position on maps using a grid-reference system.** | | |
| **CONTENT:** | | **Describe routes using landmarks and directional language (ACMMG113)**   * follow a sequence of two or more directions, including compass directions, to find and identify a particular location on a map http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png * use a given map to plan and show a route from one location to another, eg draw a possible route to the local park or use an Aboriginal land map to plan a route http://syllabus.bos.nsw.edu.au/wsimages/cca/l.pngHC * use a street directory or online map to find the route to a given location (Problem Solving) http://syllabus.bos.nsw.edu.au/wsimages/cca/l.pngCT   use a street directory or online map to find the route to a given location (Problem Solving) http://syllabus.bos.nsw.edu.au/wsimages/cca/l.pngCT | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Complete Position Problem Solving online assessment page (Yr 4) at   https://www.studyladder.com.au/resources/teacher/search?terms=position&course\_id= | | |
| WARM UP / DRILL | | * Game: 4 Corners. (label the 4 corners of the room according to direction N,E,S,W) (Variation- 8 or 16 compass points) * Students must choose to stand in a corner of the room. A person in the centre- blindfolded, must then call out one of the directions and the students standing in that corner are out and must sit in the middle of the room. Continue playing until there is only one person left. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | * Choose a question from the above Pre-assessment to complete using Newman’s. | | |
| 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 | | Various maps, access to Study Ladder pre-assessment, blindfold, Signpost Maths activity pages photocopied. | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Follow My Directions**   Students work in pairs with a barrier between them, each with the same map of the school or local area. Student A marks two landmarks on the map and gives the grid references for one of these to Student B. Student A describes the route taken between the two landmarks using directions, distances and grid coordinates while Student B marks in the route on their map. Students compare their routes and discuss the appropriateness of the given instructions. Students can then swap roles and repeat the activity.   * Variation: Students could play Battleships on grid paper with coordinates. | LEARNING SEQUENCERemediationS2 or Early S3 | * Complete Activity: Reading a street directory (pg 106 Signpost Maths 5) |
| LEARNING SEQUENCES3 | * 1:1 Ask students to describe their way from one point to another using correct terminology and compass directions. * **Paper Rounds**   In pairs, students are given a street directory of the local area.  The teacher gives them the addresses of the places where they will start and finish their paper delivery and students use coordinates to find these places. They design a route for effective delivery of the papers and calculate the distance travelled using the scale.  Possible questions include:  ❚ how long is your route?  ❚ can you devise a shorter route? |
| LEARNING SEQUENCEExtensionEarly S4 | * Variation of above:   Change to a map of the inner city, Increase/ decrease scale, make some streets one way, give larger number of addresses etc. |
| **EVALUATION & REFLECTION** | **Student Engagement: Achievement of Outcomes:**  **Resources: Follow Up:** |