**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 4 | STRAND: Measurement and Geometry | **SUB-STRAND:** Angles 2 | **WORKING MATHEMATICALLY:**  Ma2-1WM Ma2-3WM |
| OUTCOMES: MA2-16MG | | **Identifies, describes, compares and classifies angles** | | |
| **CONTENT:** | | **Compare angles and classify them as equal to, greater than or less than a right angle (ACMMG089)**   * Compare angles using informal means, such as by using an “angle tester” CT * Recognise and describe angles as “less than”, “equal to”, “about the same as” or “greater than” a right angle (Communicating) | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | |  | | |
| WARM UP / DRILL | |  | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | * Draw an angle that is greater than a right angle and an angle which is less than a right angle. | | |
| 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 | | *Resource 1: Teaching about angles: Stage 2*  [*http://technologyinmaths.wikispaces.com/file/view/teaching+about+angles+stage+2.pdf*](http://technologyinmaths.wikispaces.com/file/view/teaching+about+angles+stage+2.pdf)  Teaching angles by abstraction: a professional development experiment in Year 3  <http://www.curriculumsupport.education.nsw.gov.au/primary/mathematics/assets/pdf/angles_report01.pdf>  Things I wish I knew earlier about teaching maths – Teaching about angles – Stage 2  <http://marion2407.blogspot.com.au/2011/03/teaching-about-angles-stage-2.html> | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * Revise what a right angle looks like. Have children locate right angles in classroom. * Students use ***angle eater*** created in previous lessons to locate angles in the classroom which are greater or less than a right angle. * Students list the angles found under the following headings “Less than a right angle”, “ equal to a right angle” or more than a right angle” * Students use body angles to illustrate angles greater or less than a right angle   + *Lesson 9 Teaching about angles: Stage 2 can be used as a guide*   + Resource 1 | LEARNING SEQUENCERemediationS1 or Early S2 |  |
| LEARNING SEQUENCES2 | * Introduce the terms acute (less than a right angle) and obtuse (more than a right angle) * Student selects an object from the classroom and use the angle maker previously constructed (straw and pipe cleaner) to classify the angle as acute or obtuse. * Use clock face to show right, acute and obtuse angles. Children a given a clock face stencil and using two pencils as hands are asked to make an angle. The children will guide with statements such as, One pencil is pointing tp the twelve, where would the other pencil have to be pointing to show an acute angle. |
| LEARNING SEQUENCEExtensionLate S2 or Early S3 | * **Pirate Geometry Bingo:** Play geometry bingo as a whole class. Students need to identify a range of angles and lines, including: obtuse angle, right angle, acute angle, straight angle, skew, ray, line, line segment etc. Game is available on [Teachers Pay Teachers.](http://www.teacherspayteachers.com/Product/Pirate-Geometry-BINGO-205289) |
| **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.