**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 3 | STRAND: Measurement and Geometry | **SUB-STRAND:** Angles 1 | **WORKING MATHEMATICALLY:** Ma2-1WM |
| OUTCOMES: MA2-16MG | **Identifies, describes, compares and classifies angles** |
| **CONTENT:**  | **Identify angles as measures of turn and compare angle sizes in everyday situations (ACMMG064)*** Identify perpendicular lines in pictures, designs and the environment. CT
* Use the term right angle to describe the angle formed when perpendicular lines meet.
* describe examples of right angles in the environment (Communicating, Problem Solving)
* identify right angles in two-dimensional shapes and three dimensional objects (Communicating)
 |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) |  |
| WARM UP / DRILL |  |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | * Draw a right angle that you can find in the classroom
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| 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
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| RESOURCES | 1)[*http://www.mathsisfun.com/perpendicular-parallel.html*](http://www.mathsisfun.com/perpendicular-parallel.html)2) *Teaching about angles: Stage 2*[*http://technologyinmaths.wikispaces.com/file/view/teaching+about+angles+stage+2.pdf*](http://technologyinmaths.wikispaces.com/file/view/teaching%2Babout%2Bangles%2Bstage%2B2.pdf)3) <http://www.primaryresources.co.uk/maths/mathsE7.htm>4) 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**

|  |  |
| --- | --- |
| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| * Revise that an angle is formed when two lines meet, discussing classroom examples
* Define what perpendicular lines are. (Resource 1). Students informed that right angle is formed when two perpendicular lines meet.
* Students make an ***angle eater***by:

\* Folding a circle of paper in half.\* Fold the paper again into four quarters\* Cut out one of the quarters and discard\* Decorate the *angle eater* on both sides (Eg as fish, monster etc)Students use circle of paper with the missing quarter as the *angle eater* to locate angles that fit exactly into the gap, therefore locating right angles. | LEARNING SEQUENCERemediationS1 or Early S2 |  |
| LEARNING SEQUENCES2 | * Students locate right angles in the playground and record using cameras / ipads. After viewing the right angles located, discuss why there are so many right angles used in buildings.
* Students complete worksheet on right angles by Matthew Cameron

 <http://www.primaryresources.co.uk/maths/mathsE7.htm> |
| LEARNING SEQUENCEExtension Late S2 or Early S3 | * Students complete Estimating Angles interactive game

  <http://nrich.maths.org/1235> |
| **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.