**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 5 | STRAND: Measurement and Geometry | **SUB-STRAND:** **Time 2** | **WORKING MATHEMATICALLY:** MA2-1WM, MA2-2WM |
| OUTCOMES: MA2-13MG  | **Reads and records time in one-minute intervals and converts between hours, minutes and seconds**  |
| **CONTENT:**  | **Use am and pm notation and solve simple time problems (ACMMG086)**\* Record digital time using the correct notation, including am and pm eg 9:15am\* Describe times given using am and pm notation in relation to ‘midday’ (or ‘noon’) and ‘midnight’, eg ‘3:15pm is three and a quarter hours after midday’ (Communicating)\* Read analog notation to digital notation for time, eg ten to nine in the morning is the same time as 8:50am\* Solve simple time problems using appropriate strategies eg calculate the time spent on particular activities during the school day |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Quiz game – students work in pairs

Teacher poses questions based on content to be covered.Students work with partner to determine answer which can be written on small whiteboard/scrap paper.Points awarded for correct answer. ***Anecdotal notes taken regarding students’ level of understanding.*** |
| WARM UP / DRILL | * Counting forward and backward - by 5, 10 and 15 to and from 60
* Drill using minute hand on clock – eg display 25 minutes past and o’clock time, students response is 25 past; display 35 minutes past o’clock time, students response is 35 past and 25 to.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Dan started to walk to school at 7.50. He took 50 minutes. What time did he arrive at school? |
| 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 | Interactive clock or large class clockCardboard – for matching gameStop watch |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| * ***Review*** from Time 1 (Lessons 2 & 3) digital and analog time. Revise terms ‘past’ and ‘to’. Whole class guided lesson using interactive whiteboard resources such as digital/analog clock for prompt.
* **Introduce** am/pm notation – You tube video

<http://www.youtube.com/watch?v=p1Kl2K_XSoY>* ***Discuss –*** making particular note of noon-midday/midnight.
* ***Activity***

Brainstorm activities that students regularly do in their day ie breakfast, lunch, sport, homework, dinner, TV etc. Students choose 6 activities to illustrate, noting digital/analog time of activity and am/pm. Students are encouraged to move beyond only o’clock times. * ***Activity – time problem***

Pose the problem '*How many days have you attended school this term/year*?' Students calculate a solution.Ask the students '*How many other ways can you show this information*?' e.g. in hours, in minutes.* ***Discuss*** student responses.
 | LEARNING SEQUENCERemediationS1 or Early S2 | * ***Activity- Matching***

Teacher: write a variety of matching digital, analog and word times on a set of cards. In small pairs, students jumble the cards and place them face down. Students take turns to turn two cards over. If the cards match, the student keeps them. The winner is the student with the most cards.Discuss:* *Can you read the time on each card?*
* *Can you record the time on each card in another way?*
* *Can you explain the relationship between the time units?*
* ***Activity – Interactive***

<http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/time/> |
| LEARNING SEQUENCE | * ***Activity – Matching***

In pairs, students make a matching game with digital, analog and word times. *Teacher to outline activity parameters eg how many card sets etc.*Card packs are swapped among peers and games played. Students take turn to turn two cards over. If the cards match, the student keeps them. The winner is the student with the most cards.***Investigation Activity- How much time?***Students to decide on an activity or how many repetitions of an activity would occur in 30sec, 1 min, 2 min, 5 min, 10min. Different activities or repetitions are to be chosen for each time allocation. Students test their hypothesis and record information in a table.Students present their results of one time period to the class. ***Anecdotal notes collected and recorded based on student ability to solve simple time problems using appropriate strategies.**** ***Assessment***

***Students provided with an incomplete table where they are required to note the time relationship between analog/digital/written times. Worksheet to include questions on am/pm time.*** |
| LEARNING SEQUENCEExtension Late S2 or Early S3 | * ***Activity – Matching***

Students make a matching game with digital, analog and word times. *Students to outline activity parameters eg how many card sets etc.* Card packs are swapped among peers and games played. Students take turn to turn two cards over. If the cards match, the student keeps them. The winner is the student with the most cards.* ***Activity – How much time?***

Teacher poses the question - '*How many hours have you spent at recess and lunch this week*?' Students devise a way to record information in days, hours or minutes on a spreadsheet and then draw a graph. Students present their information to the class.  |
| **EVALUATION & REFLECTION** |  |