**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 4 | STRAND:Measurement & Geometry | **SUB-STRAND:**  **Time 2** | **WORKING MATHEMATICALLY: MA3-1WM** |
| OUTCOMES: MA3-13MG | | **Uses 24-hour time and am and pm notation in real-life situations, and constructs timelines** | | |
| **CONTENT:** | | **Interpret and use timetables (ACMMG139)**   * Read, interpret and use timetables from real life situations, including those involving 24 hour time. | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Display a train timetable. Question students about different scenarios. | | |
| WARM UP / DRILL | | * Have students make a clock face with the twelve hour markings shown in the inner circle and the twenty four hour markings on the outer circle. Use this to convert between am/pm notation and 24 hour time. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | My bus leaves Happyville Public School at 3:10pm. It stops 3 times for 2 minutes each to set down and pick up passengers along the way. The actual time spent driving is 20 minutes. What time will I arrive at my destination? | | |
| 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 | | Maths with Travel and Transport p34  <http://www.education.nt.gov.au/__data/assets/pdf_file/0017/5291/maths_with_travel_transport.PDF> | | |

**TEACHING AND LEARNING EXPERIENCE**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * Explicitly communicate lesson outcomes and work quality. * Class discussion on why we use timetables and what type of questions need to be asked to collect appropriate data. * View a variety of timetables – see page 34 *Maths with Travel and Transport* for activities (guided/independent activity) * Provide students with other opportunities to collect data on their own interests. * Students should be able to communicate using the following language:- timetable, timeline, scale, 12-hour time, 24-hour time, hour, minute, second, am notation, pm notation. | LEARNING SEQUENCERemediationS2 or Early S3 | * ***Activity 1***   Students collect a variety of television guides from different sources such as magazines, newspapers and the internet. They:   * Identify and discuss features that are common to the different television guides. * Use the television guides to plan an evening of television viewing and record their plan in a table. |
| LEARNING SEQUENCES3 | * **Investigation 1**   page 34  *Maths with Travel and Transport* for activities (guided/independent activity)   * **Investigation 2**   Collect a variety of TV guides or timetables from magazines. Compare and discuss how they are similar and different. Select start and finish times for a TV show or event (or arrival and departure times if using a transport timetable). Discuss strategies that can be used for calculating the duration of a chosen event(s), e.g. Calculate the total number of whole hours that have elapsed, calculate and add the total number of minutes that have elapsed, including those involving 24 hour time.   * Assessment: Students pose a series of questions, based on the information in the timetable for their peers. |
| LEARNING SEQUENCEExtensionEarly S4 | * Add and subtract time mentally using bridging strategies, eg from 2:45 to 3:00 is 15 minutes and from 3:00 to 5:00 is 2 hours, so the time from 2:45 until 5:00 is 15 minutes + 2 hours = 2 hours 15 minutes |
| **EVALUATION & REFLECTION** |  |

* 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.