**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 9 | STRAND: Measurement and Geometry | **SUB-STRAND:** **Time 2** | **WORKING MATHEMATICALLY:** **MA1-1WM, MA1-2WM, MA1-3WM** |
| OUTCOMES: MA1-13MG | **Describes, compares and orders durations of events, and reads half- and quarter-hour time** |
| **CONTENT:**  | **Tell time to the quarter-hour using the language of ‘past’ and ‘to’*** Read analog and digital clocks to the quarter-hour using the terms ‘past’ and ‘to’, e.g. ‘It is quarter past three’, ‘It is quarter to four’
* Describe the position of the hands on a clock for quarter past and quarter to. Describe the hands on a clock as turning in a ‘clockwise’ direction (Communicating)
* Associate the numerals 3, 6 and 9 with 15, 30 and 45 minutes and with the terms ‘quarter past’, ‘half past’ and ‘quarter to’, respectively (Communicating)
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Get students to record ‘quarter-past’,’ half-past’ and ‘quarter-to’ times on an analog clock using the Interactive Whiteboard (IWB)
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| WARM UP / DRILL | * Use ‘quarter-past’, ‘half-past’ and ‘quarter-to’ flashcards to drill students.
* Sit in a circle and play ‘quarter-past’, ‘half-past’ and ‘quarter-to ‘dominoes where students match words with analog clocks.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | It is 15 minutes past 2 o’clock. How much longer before the bell rings to go home at 3 o’clock? |
| 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 | ‘Quarter-past’, ‘half-past’ and ‘quarter-to’ flashcards, ‘quarter-past’, ‘half-past’ and ‘quarter-to ‘dominoes, ‘quarter past’ and ‘quarter to’ bingo, split pins, clock faces divided into quarters, analog clock with gears, cardboard for class clock. |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Review and Teach – Using an analog clock face with only the ‘minute’ hand attached model a ‘full turn’ and explain that this is ‘one hour’ or ‘o’clock’. *How many minutes in an hour?*Secondly model a ‘quarter turn’ and explain that this is ‘quarter past the hour’. *How many minutes in a quarter of an hour?*Then rotate the minute hand to the 6. Explain that you have moved another quarter, so in total ‘two quarters’ or ‘one half’ of the circle so this is ‘half past’ the hour.Next rotate the minute hand another quarter. You have only one quarter left so this is ‘quarter to’ the hour.Lastly move the minute hand to the 12 to complete one full turn. This is o’clock time. One hour has passed in total.Students use their clocks (made in a previous lesson) to find given times e.g. half past 12, quarter past 3, quarter to 10, 4 o’clock.The teacher uses a ‘geared clock’ to demonstrate each time given so students can see both hands rotating in a clockwise direction to the correct time.Construct a class clock displaying 5 minutes intervals with each quarter a different colour e.g. quarter past is yellow, quarter past to half past is red.Label each sector with the names of students in the class. Attach a minute hand with a split pin and rotate clockwise (move to a new 5 minute interval each day) to indicate who will be the class leaders for the day. Discuss the time depicted on the class clock e.g. 5 mins past 3, 10 mins past 3, quarter past 3. | LEARNING SEQUENCERemediationES1  | * Read analog and digital clocks to the hour using the term ‘o’clock’.
* Describe the position of the hands on an analog clock when reading ‘hour’ time.
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| LEARNING SEQUENCES1 | * In small groups, students play ‘quarter past’/ ‘quarter to’ bingo.
* Students make a clock face which is divided into quarters. Shade each quarter a different colour. Use a split pin to add the minute hand only. In pairs, students test each other on ‘quarter past’, ‘half past’, ‘quarter to’ and ‘o’clock’ time.
* **Investigation:** Make a list of activities that will take approximately 15 minutes. Discuss as a class.
* **Assessment** – Can students recognise ‘quarter past’, ‘half past’, ‘quarter to’ and ‘o’clock’ time?
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| LEARNING SEQUENCEExtension Early S2 | * Record digital time using the correct notation, including ‘am’ and ‘pm’ e.g. 9:15am
* Relate analog notation to digital notation for time e.g. Ten to nine in the morning is the same time as 8:50am.
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| **EVALUATION & REFLECTION** | * Can students recognise the difference between ‘quarter past’ and ‘quarter to’ time?
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* 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.