**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 9 | STRAND: Number and Algebra | **SUB-STRAND:** Fractions and Decimals | **WORKING MATHEMATICALLY:** MA3-1WM  |
| OUTCOMES: MA3-7NA  | **Compares, orders and calculates with fractions, decimals and percentages.** |
| **CONTENT:**  | **Compare fractions with related denominators and locate and represent them on a number line.**\* Apply knowledge of equivalent fractions to convert between units of time. |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Students are asked to write as many time fractions as they can make. Remind students how many minutes are in 1 hour.
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| WARM UP / DRILL | * Play an interactive multiplication game as a class on the board.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | * If it is quarter to nine and the fraction in 45/60, then what is the simplified fraction for quarter past three and half past six?
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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
 |
| RESOURCES |  |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED AND INDEPENDENT ACTIVITIES |
| * It is important that students understand how many minutes are in 1 hour, before they are able to simplify a fraction.
* Start with the easy simplifications like quarter past and quarter to the hour. All quarter pasts will be 15/60 as a fraction and all quarter tos will be 45/60. Simplify these together. Ask students can they understand where the time quarter past and quarter to come from.
* As a class discuss other fractions that the clock forms and how we simplify these.
* Look at the time as you complete the lesson and write that time as a fraction. Give some example like 5/55, 12/50, etc.
* Do not only do an hour as the denominator, mix it up with less than an hour and see what results the class get.
* Explain that units of time are just the same as simplifying fractions.
 | LEARNING SEQUENCES2 | * <http://www.ixl.com/math/grade-4/fractions-of-time-units>
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| LEARNING SEQUENCES3 | * Make clocks using paper plates and split pins. Have students choose a time on the clock for their partner to write as a fraction and then simplify. Take turns making the time. Start from easy times to harder times.
* Investigation: ask students to explain what happens when the denominator of the time is an odd number, versus an even number. Try different numbers and investigate the results.
* ASSESSMENT – Observation and anecdotal notes of the investigation.
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| LEARNING SEQUENCEExtension S4 |  |
| **EVALUATION & REFLECTION** | **Student Engagement: Resources:****Achievement of Outcomes: Follow-up:** |