**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. | | |
| WARM UP / DRILL | | * Play an interactive multiplication game as a class on the board. | | |
| 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? | | |
| 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> |
| 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. |
| LEARNING SEQUENCEExtensionS4 |  |
| **EVALUATION & REFLECTION** | **Student Engagement: Resources:**  **Achievement of Outcomes: Follow-up:** |