**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 8 | 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** \* Explain and demonstrate why two fractions are or are not equivalent. |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Give students some fractions which are equivalent and some which are not and see if they can solve. For example is 4/5 equivalent to 16/20? Explain your answer. Is 3/8 equivalent to 12/24? Explain your answer.
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| WARM UP / DRILL | * Play an interactive multiplication game as a class on the board.

<http://www.ideal-resources.com.au/gallery/images/iRMwipeout2_eval.swf> |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  |  |
| 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 | * Create your own worksheets

<http://www.softschools.com/math/fractions/equivalent_fractions/> |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED AND INDEPENDENT ACTIVITIES |
| * To be able to explain and demonstrate students need to be able to solve the problem and explain what they have done.
* Re-visit how to change the numerator and denominator to make fraction equivalent.

Read through the following as a revision<http://www.dr-mikes-math-games-for-kids.com/equivalent-fractions.html>* Show the following worksheets on the board and work through the answers together as a class (there are many worksheets to choose from at many levels). Work through the steps for each question, and then use the formula to check answers.

<http://www.dr-mikes-math-games-for-kids.com/equivalent-fractions-worksheets.html>* Introduce the formula for equivalent

fractions http://www.helpwithfractions.com/wp-content/themes/website/data/php/timthumb.php?src=wp-content/uploads/2012/06/equivalent-rule.png&q=90&w=135* Practice examples of the formula, eg

 | LEARNING SEQUENCES2 | * <http://www.teacherspayteachers.com/Product/FREE-Go-Darth-Equivalent-Fractions-Go-Fish-Card-Game-231708>
 |
| LEARNING SEQUENCES3 | * Complete the middle level worksheets

<http://www.dr-mikes-math-games-for-kids.com/equivalent-fractions-worksheets.html>* Poker game where 5 fractions are turned over and you have to find the ones that are equivalent to each other. Ask students to work in pairs and explain why the others are not equivalent

<http://www.hoodamath.com/games/fractionpoker.html>* Investigation: write fractions on cards and place them in an envelope. Have students pull 2 cards out of the envelope (bag) and explain whether the 2 fractions are equivalent or not. Fraction cards to print <http://www.dr-mikes-math-games-for-kids.com/card-math-fraction-game.html>
* ASSESSMENT – observation of the Investigation. Take anecdotal notes.
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| LEARNING SEQUENCEExtension S4 | * Complete the higher level worksheets

<http://www.dr-mikes-math-games-for-kids.com/equivalent-fractions-worksheets.html>* Poker game where 5 fractions are turned over and you have to find the ones that are equivalent to each other. Ask students to work in pairs and explain why the others are not equivalent

<http://www.hoodamath.com/games/fractionpoker.html> |
| **EVALUATION & REFLECTION** | **Student Engagement: Resources:****Achievement of Outcomes: Follow-up:** |