**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 3 | STRAND: Number and Algebra | **SUB-STRAND:** **Fractions and Decimals 1** | **WORKING MATHEMATICALLY:** **MA3-1WM, MA3-2WM, MA3-3WM** |
| OUTCOMES: | **MA3-7NA- Compares, orders and calculates with fractions, decimals and percentages.** |
| **CONTENT:**  | **Recognise that the place value system can be extended beyond hundredths*** Express thousandths as decimals
* Interpret decimal notation for thousandths
* State the place value of digits in decimal numbers of up to three decimal places
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Students have to represent different decimals on an abacus, showing the can demonstrate an understanding of the place value of decimals.
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| WARM UP / DRILL | * Play dice place value game, students in two teams roll a dice and place that number somewhere on their place value chart. The chart only has one whole number, tenths, hundredths and thousandths. The team with the largest number wins, to extend the game students can place the number they have rolled into the other teams place value chart.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | * Tom had $84.50 and then spent $12.25 for lunch, $17.85 for a DVD and $15.45 for a movie. How much did he have left?
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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
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| RESOURCES |  |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| * Lead a discussion to describe the units used for food. Ask questions such as when you are shopping for food what decimals do they use? Fractions of a kilogram? 750 grams is what as a kilogram?
* Look at some examples of food fractions on the IWB and place them on a number line.
* Discuss when have the students seen thousandths used. For example time for running races, measure distance, sport statistics e.g. cricket averages.
* Discuss why thousandths are used in these instances.

  | LEARNING SEQUENCERemediationS2 or Early S3 | * On a number line (Long piece of paper) students place post it notes with decimals (tenths and hundredths) once they have all been placed students flip over the piece of paper to see how close they were.
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| LEARNING SEQUENCES3 | * How many different numbers can you make in the format of \_ . \_ \_ \_ using only zeros and ones? How many of these numbers will be greater than 1 or less than 1?
* Locating thousandths on a number line, create a number line i.ie

I I I I I I I I I I3.25 3.36Students locate several numbers and explain their answers* Investigation: students time how fast they can run 100m, write their times using 3 decimal places and write why is including the decimals important
* Ask students to write down 15 numbers between 3.1 and 3.4
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| LEARNING SEQUENCEExtension Early S4 | * Students begin adding and subtracting numbers with decimal notation using algorithm
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| **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.