**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 2 | STRAND: NUMBER and ALGEBRA | **SUB-STRAND:** FRACTIONS AND DECIMALS 1 | **WORKING MATHEMATICALLY:** MA2-1WM MA2-3WM |
| OUTCOMES:MA2-7NA | **Represents, models and compares commonly used fractions and decimals** |
| **CONTENT:**  | **Model and represent [unit fractions](http://syllabus.bos.nsw.edu.au/glossary/mat/unit-fraction/?ajax" \t "_blank" \o "Click for more information about 'unit fractions'), including one half, one third, one fifth and one quarter and their multiples to make a whole*** name fractions up to one whole
* interpret the denominator as the number of equal parts a whole has been divided into
* interpret the [numerator](http://syllabus.bos.nsw.edu.au/glossary/mat/numerator/?ajax" \t "_blank" \o "Click for more information about 'numerator') as the number of equal fractional parts, eg three eighths is 3 equal parts in 8
* use the terms 'fraction', 'denominator' and 'numerator' appropriately when referring to fractions
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Mathletics D series *introducing fractions-modelling fractions*
* **Whole class game**. One set of picture cards showing fractions drawn both linear and area (circle, rectangles). Another set of cards with fraction notation. Volunteers match them.
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| WARM UP / DRILL | * Class counting starting from one fifth. Add a fifth until 4 whole is reached. (Play again but count by quarters, halves or thirds)
* [www.studyladder.com.au](http://www.studyladder.com.au) – Orange – Identifying fractions
* IWB Targeting Maths
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | In a colouring book only five-eighths of the daisy petals were coloured.* How many petals still need to be coloured?
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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 | Picture cards showing fractions drawn both linear and area (circle, rectangles). Another set of cards with fraction notationSmartboard IWB Notebook foam clay strips of paper circles of paper Bingo GamePoster showing fractions labelled with the words numerator and denominator.  |

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Introduce the lesson. Explain the expected outcome-* *to be able to name modelled fractions to one whole.*
* *name and explain role of numerator and denominator*.
* Play whole class games. [www.studyladder.com.au](http://www.studyladder.com.au) – Orange – Identifying fractions
* Divide into groups to complete activities.
* Check understanding of **metalanguage**: whole part equal part half quarter eighth third fifth one-third one-fifth fraction denominator numerator mixed numeral whole number fractional part number line
* **Background knowledge**

When expressing fractions in English, the numerator is said first, followed by the denominator. However in many Asian languages, the opposite is the case.* Discuss and display charts showing parts of a fraction.
 | LEARNING SEQUENCERemediationS1 or Early S2 | * **Revise basic fractions**. Fold strips of paper, colour circles and rectangles into nominated fractions.
* **Complete pie-fraction disks**. State what fraction is shown in the disk and how many bits need to be added to complete the whole shape.
* **Model fractions** using clay foam
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| LEARNING SEQUENCES2 | * **Fraction Bingo** You need : one set of fraction picture cards. Each player needs a blank Bingo card divided into 5x5 squares. Players write stated fractions on the board filling it up. Caller shows pictures. Players use counters to cover it on their board. First player to get three counters in a row is the winner.
* **Worksheet** Students name the fraction covered in a diagram. Then state how much more is needed to complete the whole.
* **IWB Notebook** Gallery *Fractions, Decimals*

Investigation: Carmen folded a piece of paper into fifths. On each fifth she drew three flowers.How many flowers did Carmen draw?* Students state the number of pieces needed to make a whole picture.
* Label a fraction correctly using terms – numerator, denominator.
* Colour the stated fraction in a diagram e.g. three-fifths
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| LEARNING SEQUENCEExtension Late S2 or Early S3 | * Explore addition of fractions with like denominators.
* Explore subtraction of fractions with like denominators.
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| **EVALUATION & REFLECTION** | **Student Engagement: Resources:****Achievement of Outcomes: Follow-up:** |

* 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.