**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TERM: | WEEK: 4 | 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:** | | **Count by quarters, halves and thirds, including with mixed [numerals](http://syllabus.bos.nsw.edu.au/glossary/mat/numeral/?ajax" \t "_blank" \o "Click for more information about 'numerals'); locate and represent these fractions on a [number line](http://syllabus.bos.nsw.edu.au/glossary/mat/number-line/?ajax" \t "_blank" \o "Click for more information about 'number line') (ACMNA078)**   * + place halves, quarters, eighths and thirds on number lines between 0 and 1,   + place halves, thirds and quarters on number lines that extend beyond 1, | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Class activity   Number line showing several markers. Students supply missing fraction indicated on the line.  Hold up one and a half circles. Ask students where this would be placed on a number line showing from 0 up to 2 | | |
| WARM UP / DRILL | | * Whole class activity   <http://www.maths-games.org/fraction-games.html> Fraction Flags Game | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | At a party one child was given half a meat pie. Another was given seven-eighths of a meat pie. The boys began to brag that they each had been given more than the other. Who was right, who was given the most? | | |
| 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 | | Number lines pictures of apple halves  Circles cut in half cards with improper fractions to 4 whole  Number line mat cards with percentages and decimal equivalents | | |

**TEACHING AND LEARNING EXPERIENCES**

|  |  |  |
| --- | --- | --- |
| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Explicitly communicate lesson outcome** * *place halves, quarters, eighths and thirds on number lines between 0 and 1,* * *place halves, thirds and quarters on number lines that extend beyond 1,* * Teach and review concept of half, quarters, thirds and eighths. * Place each in order of size, remind students that the larger the denominator – the smaller the size of each part. * Place common fractions in order on a number line. * Play whole class game   **Who has the most?**  Students organise the halves (mixed numerals) they were given from smallest to biggest   * Class activity   <http://www.kidsolr.com/math/fractions.html>  Do first two parts.  *What is a fraction ?*  *Fraction parts* | LEARNING SEQUENCERemediationS1 or Early S2 | * **Number line Mat**   Draw a number line across the room. Give children cards marked with common fraction less than and greater than one. Ask each to stand on the number line when they think they should be. |
| LEARNING SEQUENCES2 | * **How many apples?**   Cut out 20 pictures of *apple halves*  Students are given a different number of halves. They need to write down the mixed numeral to represent the number of halves given.   * **Investigation and Assessment:**   Students are given a card with a fraction written on it. Each student needs to place themselves in the correct spot to rank from smallest to largest value.  Repeat with cards including mixed numerals to 3. |
| LEARNING SEQUENCEExtensionLate S2 or Early S3 | * Play the above game, but Include cards showing decimals and percentages to be placed in order. |
| **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.