**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 5 | STRAND: Number and Algebra | **SUB-STRAND:** Multiplication and Division 1 | **WORKING MATHEMATICALLY:**  WA2-1WM MA2-2WM MA2-3WM |
| OUTCOMES: | | **\* Uses mental and informal written strategies for multiplication and division**  **\* Selects and uses appropriate mental or written strategies or technology to solve problems** | | |
| **CONTENT:** | | \* Link multiplication and division facts using groups and arrays  \* Pose multiplication problems and apply appropriate strategies to solve them | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | WORKSHEET - Mathletics YR3, page 30 of Multiplication and Division student book. | | |
| WARM UP / DRILL | | * Drill times tables that students are becoming familiar with * Show an array and ask students to give you a fact, eg 3 x 2 = 6, 6 ÷ 2 = 3 | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | Each month Thomas collects 5 new football cards. How many does he collect in a year? | | |
| 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 | | IWB materials on inverse relationships and arrays, counters, Mathletics, Studyladder | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Explicit Teaching  * Model multiplication facts using rectangular arrays. Demonstrate inverse relationships. * Explicitly show how to use known multiplication facts to solve unknown division facts, eg if 4 x 2 = 8, then 8 ÷ 2 = 4   **Define and Reinforce**   * Discuss and define the metalanguage used in the unit: rows, columns, shared, equals, array   **IWB**   * Using IWB resources, introduce and demonstrate activities on the board that relate to and involve inverse relationships. | LEARNING SEQUENCERemediationS1 or Early S2 | * Make arrays to show repeated additions * Match labels to arrays |
| LEARNING SEQUENCES2 | * Have students make models of multiplication facts using interlocking cubes. Build a staircase, eg with 2 blocks in the first step, 4 in the second, etc, to represent the multiplication facts for 2. Students use a 10 x 10 grid to record their answers. * Students model the multiplication facts using rectangular arrays and record the associated inverse relationships   eg ★ ★ 3 x 2 = 6, 2 x 3 = 6, 6 ÷ 3 = 2, 6 ÷ 2 = 3  ★ ★  ★ ★     * Game on page 31 of Students’ Book, Mathletics, Multiplication and Division: Linking multiplication and division – matching game using cards.   **Investigation**   * Give students a division sentence, ask them to make a model to match it.   ASSESSMENT – Observation, Assessment worksheet p. 44 teachers’ book, Mathletics. |
| LEARNING SEQUENCEExtensionLate S2 or Early S3 | * EXT – Missing numerals in middle of number sentences, eg 18 ÷ \_\_\_\_ = 3 |
| **EVALUATION & REFLECTION** | **Student engagement Achievement of outcomes**  **Resources Follow up** |