**kkkMATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 2 | STRAND: Number and Algebra | **SUB-STRAND:** Multiplication and Division 1 | **WORKING MATHEMATICALLY:** WA2-1WM MA2-2WM MA2-3WM |
| OUTCOMES: | **Uses appropriate terminology to describe , and symbols to represent, mathematical ideas.** |
| **CONTENT:**  | \* Recognise and use the symbols for multiplied by (x), divided by (÷) and equals (=)\* Model and apply the commutative property of multiplication, eg 5 x 8 = 8 x 5 |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | WORKSHEET - Mathletics YR3, page 2 of Multiplication and Division student book.  |
| WARM UP / DRILL | * Multiplication memory using cards on the floor – match question and answer
* I’ll give you a fact, you give me a fact: students stand at desks, teacher give a multiplication or division fact of 2,5 or 10. One by one, students give an associated fact – if they get it wrong they sit down. Last left standing wins.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | I count 20 legs in the paddock. How many ducks and how many sheep in the paddock? How many solutions can you find? |
| 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 | IWB materials on arrays, hundreds chart to show 2’s, 5’s, 10’s and 3’s, worksheets on multiplication and division symbols, concrete materials such as counters, Mathletics, Studyladder |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Explicit TeachingLook at arrays of 2s, 3s, 5s and 10s. Describe as 3 rows of 2, introduce symbol x and describe as 3x2, etc.* Explicitly teach and discuss repeated addition and its relation to multiplication. Introduce division the same way, use symbol ÷ to match arrays. Show how 3 x 2 = 2 x 3.

**Define and Reinforce*** Discuss and define the metalanguage used in the unit: array, multiply, multiplied by, groups, rows, equals, divided by, lots of.

**IWB*** Using IWB resources, introduce and demonstrate activities on the board that relate to and involve multiplication and division using symbols. These include matching games and memory games.
 | LEARNING SEQUENCERemediationS1 or Early S2 | * Revise skip counting aloud 2’s, 5’s and 10’s
* Repeated addition, arrays, using concrete materials
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| LEARNING SEQUENCES2 | **Investigation*** Fill in the missing symbol to make number sentences true, eg 3 \_\_\_5 = 15
* Multiplication concentration game, Mathletics teachers’ book p.34,35: match products to answers. Do in pairs or small groups.
* Product Bingo – Mathletics teachers’ book p. 36
* Model arrays and reinforce language. Link with multiplication eg 2 rows of 8 = 2 x 8, 8 rows of 2 = 8 x 2.
* Use concrete materials to make arrays, match to labels, make own.
* ASSESSMENT - Observation of students using correct symbols to match arrays, observation of how students complete worksheets and games.
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| LEARNING SEQUENCEExtension Late S2 or Early S3 | EXT – Use correct symbol to complete number sentences for more complex operations, using higher numbers.  |
| **EVALUATION & REFLECTION** | **Student Engagement Achievement of Outcomes****Resources Follow up** |