**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 8 | 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** |
| **CONTENT:**  | * Select, use and record a variety of mental strategies, and appropriate digital technologies, to solve simple multiplication problems.
* Pose multiplication problems and apply appropriate strategies to solve them
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | Worksheet - “Flowers” problem from Targeting Maths Problem solving.Nadia has 24 flowers. She wants to put equal numbers of flowers into each vase. How can Nadia place the flowers. Get students to select and record how they would work their answer out. |
| WARM UP / DRILL | Multiply –2X, 3X, 5X and 10XProvide each student with a 4X4 gridStudents write products from 1X1 up to 10X10 in each square Roll ten sided dice twice, multiply numbers together. Students cross off the answer on grids. First with four in a row win – any direction. Go Maths Stage 2B – Unit 37, Go Maths Stage 2B 37.4 |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Sheep and ducksI can count 20 legs in the paddock. How many ducks and how many sheep are in the paddock?How many solutions can you find?The farmer is taking ducks and sheep to market.Altogether there are 15 heads and 52 legs in the truck. How many ducks and how many sheep are going to market? |
| 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, concrete materials such as counters and paper money, Mathletics, Studdyladder, [swcurriculumsupport.wikispaces.com/file/view/Mulitplication%20and%20Division%20S2%201.pdf/468887240/Mulitplication%20and%20Division%20S2%201.pdf](http://swcurriculumsupport.wikispaces.com/file/view/Mulitplication%20and%20Division%20S2%201.pdf/468887240/Mulitplication%20and%20Division%20S2%201.pdf)  |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Explicit TeachingExplicitly teach the different ways and strategies in which to actively solve problems. These can range from read, plan, work and check, drawing a diagram, looking for patterns, act it out, makea list, working backwards. These strategies will work with the mental strategies covered such as doubling, factors, repeated addition and arrays.**Define and Reinforce*** Discuss and define the metalanguage used in the unit: strategy

**IWB*** Using IWB resources, introduce and demonstrate activities on the board that relate to and involve selecting the best strategy to solve a problem.
 | LEARNING SEQUENCERemediationS1 or Early S2 | * Simple 1 step problems which are easy to follow and use direct known multiplication facts and use picture clues.
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| LEARNING SEQUENCES2 | * Put students into small groups and allow each group to work together or individually to solve a multiplication problem. Allow for some rotations and then bring the class together for a group discussion which focuses on the strategies selected.
* Investigation: Which is better??

Pose a multiplication problem to the entire class. Allow students to solve using a mental strategy. As a class, allow individuals to solve the problem using their chosen method and get students to justify why their way of getting to the answer is the best.* Assessment - Area multiplication

Show the cardboard unit square and the “7 x 3” rectangle. How many squares like this would you need to cover the rectangle completely? Provide the student with a copy of the grid and get them to explain how they got their answer. |
| LEARNING SEQUENCEExtension Late S2 or Early S3 | * Provide students with multiplication and division number sentences and allow students to create and write a variety of problems which their peers would have to solve.
* Open-ended problems - such as those found in Targeting Maths Problem solving.
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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.