**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 7 | 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:**  | Represent and solve problems involving multiplication and using efficient mental and written strategies and appropriate digital technologies.• Factorising the multiple of 10, e.g. 3 x 20: 3 x 2 x 10 = 6 x 10 = 60 |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | WORKSHEET - Maths Plus 3 Worksheet on “Multiples”. |
| WARM UP / DRILL | * List the factors of different numbers such as 12, 15, 20 and 10.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Jemmah has 24 flowers that she needs to plant. What are some of the different arrays she can make. They need to be in even rows. |
| 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 and review factors of 10 and that 10 is a factor of 20, 30, 40 .. and so on. Discuss in detail how these numbers are discovered through multiplication and division and knowing these factors help increase the fluency of answering problems.**Define and Reinforce*** Discuss and define the metalanguage used in the unit: factors, factorising, multiples.

**IWB*** Using IWB resources, introduce and demonstrate activities on the board that relate to and involve factors and factorising. These include matching games and memory games.
 | LEARNING SEQUENCERemediationS1 or Early S2 | * Some revision and games:

<http://jmathpage.com/JIMSMultiplicationfactorsandmultiples.html>* Match the factor. Give the students a number i.e 10, students need to list the factors that match and earn points for their team.
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| LEARNING SEQUENCES2 | * Get students to complete and fill in the missing numbers on some number strips and also write the matching multiplication sentence with a focus on multiples of 10 and 20. See below link for an example.

<http://www.helpingwithmath.com/printables/worksheets/multiplication/3oa1multiply02.htm>* Using a hundreds chart, get students to shade in numbers which are multiples of 10 and list some of the factors of these multiples. i.e. 50 - 5 x 10, 2 x 25, 1 x 50…
* Investigation: Money
* Pose some questions about money asking students to work out how many $10 notes would be needed. i.e. the girl has 3 $20 notes in her wallet and wants them changed to lots of $10, how many would she get and how much money does she have? (Have variations on the question and provide students with paper money to sort in groups)
* ASSESSMENT - Worksheet. Students list factors of 20, 30 and 50 which need to include a factor of 10. This can be done in a tree diagram or number strip. Pose a problem which involves using factors and multiples of 10.
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| LEARNING SEQUENCEExtension Late S2 or Early S3 |  EXT - I'll give you a fact - you give me a factStudents stand up at their desks and teacher states a multiplication fact of 2 ,3, 5 and 10 which needs to be then factorised by 10. The teacher asks a question such as 5 x 50, the student needs to factorise with a 5 x 5 x 10. One by one students give an associated fact - if they get it wrong they sit down. Repeat for next student with another fact. Last left standing wins. |
| **EVALUATION & REFLECTION** |  |