**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 5 | STRAND: Number and Algebra | **SUB-STRAND:** Patterns and Algebra 2 | **WORKING MATHEMATICALLY:**  MA2-1WM MA2-2WM MA2-3WM |
| OUTCOMES: MA2-8NA | | **Generalises properties of odd and even numbers, generates number patterns, and completes simple number**  **Sentences by calculating missing values.** | | |
| **CONTENT:** | | **Uses equivalent number sentences involving addition and subtraction to find unknown quantities.**   * Complete number sentences involving addition and subtraction by calculating missing numbers. * Use inverse operations to complete number sentences (Problem Solving) | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * IWB Get Smart. Stage 2 Odds and Evens. Drag and drop the number tiles into their correct position on the Venn diagram * Class completion of ‘number stories’ for given numbers eg. 32 28+2=, 23+7=, 21+9=………… | | |
| WARM UP / DRILL | | * Skip counting by 3’s, 4’s, 6’s, 7’s, 8’s and 9’s from any starting point. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | * When 10 is added to a number the answer is the same as 12 + 8. What is the answer? | | |
| 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 | | Studyladder - <https://www.studyladder.com.au/login/account>  Get Smart - <http://getsmarts.weebly.com/> Maths Plus Stage 2 Assessment and Reporting Patterns and Algebra 1 | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * Explicitly communicate lesson outcomes and work quality. * Review processes as well as signs +, - , and =. * Define and reinforce metalanguage used in this unit e.g. missing, equivalent, inverse operations. * Commutative property. Throw 2 dice and add the score. Discuss the order in which the scores were added by different people. Does the order matter for addition? * Extend to 3 or more numbers. Add sets of numbers to check that the order does not matter when adding. Eg, 6+5+3= 3+6+5 | LEARNING SEQUENCERemediationS1 or Early S2 | * Using a Hundreds Chart count forwards and backwards by ones, twos, fives and tens. * Build addition facts up to 20 by recognising patterns or applying the commutative property e.g. 4 + 5 = 5 + 4 |
| LEARNING SEQUENCES2 | * Open-ended investigation to find several number sentences that produce an answer of 48 using subtraction and addition. Repeat using a different number. * IWB Studyladder activities. Stage 2. Balancing number equations by addition   e.g. 7 + 8 = 4 + \_\_  Balancing number equations by subtraction  E.g. 12 - \_\_ = 14 – 6   * Inverse operations using money. E.g. 50c + 30c = $1.00 -\_\_ * ASSESSMENT. Worksheet 1 - Students independently complete activities which require them to correctly calculate the missing numbers in number sequences, describe patterns recorded and complete number sentences involving addition and subtraction by calculating missing numbers. |
| LEARNING SEQUENCEExtensionLate S2 or Early S3 | * Introduce < and > signs to replace = sign in number equations * IWB Studyladder activities. Patterns and Algebra Year 5 |
| **EVALUATION & REFLECTION** | Student engagement Achievement of Outcomes  Resources 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.