**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 1 | STRAND:Numbers and Algebra | **SUB-STRAND:**  Addition and Subtraction 2 | **WORKING MATHEMATICALLY:**  MA1-1WM MA1-2WM MA1-3WM |
| OUTCOMES: MA1-5NA | | Uses a range of strategies and informal recording methods for addition and subtraction involving 1 & 2 digit numbers | | |
| **CONTENT:** ACMNA030 | | Select and use a variety of strategies to solve addition and subtraction problems involving 1 & 2 digit numbers   * perform simple calculations with money * check solutions using a different strategy * recognise which strategies are more efficient and explain why * explain or demonstrate how an answer was obtained for addition and subtraction problems | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | Sena 1 & 2 TENS assessment  Recognition of coins and money symbols  43 + 21, 37-21… student demonstrates strategy to add and subtract numbers (jump, split, inverse) with concrete materials, verbally, or on whiteboard  Can they offer another strategy? | | |
| WARM UP / DRILL | | Using the 100’s chart count forwards and backwards from a given number  How many different ways can you make 20c, 50c, $1; recognise equivalent amounts using different denominations  Display a dot pattern card eg. 8 and say “I wish I had 30. How many more do I need?” Students use mental strategies to solve the problem. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | The learning activities described form the basis of the TENS program for the week | | |
| 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 | | 100’s chart; IWB; dot pattern cards; shop set up and prices for each item; mini whiteboards and markers; shopping cards for partner activity (picture and cost) for 3 levels | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Model card game for shopping activity using 2 single digit amounts then increase difficulty to two 2 digit amounts. Ask students to devise a strategy to work out the answer eg. 25c + 15c  Model one or more of the jump strategy using the 100’s chart; the split strategy using the whiteboard; counting on and back; doubles; and the inverse strategy for change from $1 depending on student ability  Give several examples so that students can suggest different strategies for each and then discuss how efficient they are.  Check and revise student knowledge of money symbols  Language/Vocabulary – jump, split, inverse, total, add, take away, subtract, equals, double, number line, altogether, combinations, difference, bundle, efficient, strategy | LEARNING SEQUENCERemediationES1 | i)**Shopping Cards** – played as in S1 but with single digit amounts. Provide concrete materials as needed.  ii)**Class Shop** – buy 1 item less than 20c and work out change from 20c. Explain the strategy used. |
| LEARNING SEQUENCES1 | i)**Shopping Cards** – 2 piles of cards with picture and price of item, some on the decade eg. 30c and 2 digit numbers off the decade eg. 17c. Students play with a partner. Turn one card over from each pile and use mini whiteboards to solve and show strategy used (use draw down lines). Partner attempts same problem using different strategy. Students decide which one is more efficient.  ii)**Class Shop** – buy 1 item less than $1 and work out change from $1. Explain the strategy used. Partner suggests alternate strategy if more efficient.  **Assessment** – observation; students report back to class and demonstrate most efficient strategies used  Investigation: Most efficient strategy for adding and subtracting one and two 2 digit numbers |
| LEARNING SEQUENCEExtensionEarly S2 | i)**Shopping Cards** – played as in S1 but students are given a certain amount to spend and can buy several items according to this  ii)**Class Shop** – buy 2 items and work out total as well as change from $1  After showing addition algorithm follow up with associated subtraction eg. 40c + 17c = 57c  57c – 40c = 17c  57c – 17c = 40c |
| **EVALUATION & REFLECTION** |  |