**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 3 | 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* 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
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | TENS assessment Oral count by 10sOrder “ten” strips / numeral cards to 100Add/subtract 10 using dot strips and ten strips |
| WARM UP / DRILL | Count by 10s using the 100’s chartFingers – ask a student to make a 2 digit number using fingers. Use students to model the number eg. 35 is 3 students with 10 fingers and 1 with 5 fingers. Ask another student to make a 2 digit number the same way. A third student is then asked to add the number by combining fingers and moving students around eg. put all groups of 10 fingers together.  |
| 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
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| RESOURCES | Ghostbuster stencil and variations for each level; dice with multiples of 10 as described; 100’s charts for students with 10’s column highlighted or number lines 0, 10, 20…100 for remediation group; counters; whiteboards and markers; number lines |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Model use of the number line, jumping up and down by single digit numbers.Reinforce that multiples of 10 always end in zero and show this on the number line as well as the 100’s chart, counting with children to check.Start at zero and ask students to add a given number. Add another number to that and ensure they are moving in the right direction. Give several examples. Students can offer any mental strategies used as well.Tell students they are now going to add 10 each time.Ask students how to subtract 10? What strategy would you use?Show examples on 100’s chart and number line and check any mental strategies given. | LEARNING SEQUENCERemediationES1  | **Ghostbusters addition** – Play as in S1 but give students 100’s charts with 10’s column highlighted as well as 10 strips to support their counting or number lines.Play addition only and encourage students to count up from the larger number. Students write some of their algorithms on a whiteboard. |
| LEARNING SEQUENCES1 | i)**Ghostbusters addition** – prepare BLM DENS Stage 1 pg 288 or make a stencil of a haunted house with 11 ghosts flying around, large enough for counters to be placed on them. Write numerals 0, 10, 20…100 on the ghosts. Prepare 2 dice with 0, 10, 20 , 30 ,40, 50 on one and 10 – 60 on the other. Give students 15 counters and bundles of 10 items eg. unifix cubes or ten strips. Students take turns rolling dice and adding numbers using materials for support when needed. They place a counter on the ghost displaying the corresponding numeralii)**Ghostbusters subtraction** – change numerals on game page and diceWrite some algorithms on whiteboard for reflection.**Assessment –** Display a strip of 6 dots. How many? Place 10 dot strip underneath. How many? Continue placing “10” strips underneath and repeat question. Determine student’s strategy and take away “10” strips for checking subtraction strategy.Investigation: knowledge of multiples of 10 to complete 2 digit addition and subtraction |
| LEARNING SEQUENCEExtension Early S2 | **Ghostbusters addition and subtraction –** Play as in S1 but gameboard has numerals 10-200 and students throw 3 dice (2 for subtraction). Students write algorithm on whiteboard to see friends of 10 patterns eg. **4**0 + **3**0 = **7**0 then write the associated subtraction algorithms on whiteboards |
| **EVALUATION & REFLECTION** |  |