**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK:  | STRAND: Number and Algebra | **SUB-STRAND:** Addition and Subtraction 1 | **WORKING MATHEMATICALLY:** MA1-1WM & MA1-3WM |
| OUTCOMES: MA1-5NA | **Uses a range of strategies and informal recording methods for addition and subtraction involving one-two digit numbers.** |
| **CONTENT:**  | **Use the equals sign to record equivalent number sentences involving addition and to mean ‘is the same as ‘ rather than as an indication to perform an operation, eg 5 +2= 3+4*** Check given number sentences to determine if they are true or false and explain why, eg, is 7+5 = 8+4 true? Why or why not?
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | Pre ASSESSMENT-Number questions- 3+4=6 +\_\_\_20-10= 5+\_\_13+ \_\_\_=30-12 |
| WARM UP / DRILL | Double Dice \*Students write numbers 0-12 in a column.* Students take turns to roll the two dice and can choose to add or subtract the numbers. Draw a stroke next to the answer.. The aim is to get as many strokes as possible next to the same number. Ask: Which answers were made the

Least times? Why?* least times
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | How many combinations can make the number 20? Eg 10+10, 30-10 |
| 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 | Dice, balance scales, blocks, counters, blu-tack |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Explicitly communicate lesson outcomes and work quality.**Teach and review** Whole class examples on the board to answer the questions in pre assessment and do others. Use concrete materials to demonstrate equal sides.**Model language** e.g., add, equal, balance, subtract, total, sum, take away,  | LEARNING SEQUENCERemediationES1  | * Give students a number of counters (eg 11 ) and split them into two groups in different ways and record a number sentence about each way (eg 6+5=11)
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| LEARNING SEQUENCES1 | **Whole Class Instruction and Modelled Activities*** **Use the balance scales in a demonstration of equivalence. (if the scales are slightly out of balance you might need to attach some blu-tack on one side)**
* **Place 8 blocks on one side of the balance scales. Place 6 (identical) blocks on the other side. Ask How many more blocks do we need to balance the 8? Ask a student to place the extra 2 blocks on the balance to show that 6 and 2 balances 8. Ask students to suggest other combinations of numbers and investigate.**
* **Say a number between 4 and 20 (eg 9) Students must tell toy two numbers that together make that number (eg 4 and 5; 6 and 3)**
* **Write the number 15 on the board. Present the following problem to the class. Two numbers add together to make 15. What might the two numbers be? Brainstorm all possible combinations. Repeat this for other numbers.**

**Assessment: Can students demonstrate an understanding of equality in number sentences?** **Can students find the missing number to complete a number sentence?**  **Complete various examples to show this.** |
| LEARNING SEQUENCEExtension Early S2 | * Students find combinations of three numbers that add together to make one of the numbers from 8 to 20.
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| **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.