**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK:  | STRAND: Number and algebra | **SUB-STRAND:** Addition and subtraction | **WORKING MATHEMATICALLY:** MA1-1WM & MA1-2WM |
| OUTCOMES: | **MA1-1WM:** describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols**MA1-2WM:** uses objects, diagrams and technology to explore mathematical problems**MA1-3WM** supports conclusions by explaining or demonstrating how answers were obtained**MA1-5NA:** uses a range of strategies and informal recording methods for addition and subtraction involving one- and two-digit numbers |
| **CONTENT:**  | **Represent and solve simple addition and subtraction problems using a range of strategies, including counting on, partitioning and rearranging parts*** Use concrete materials and a number line to model and determine the difference between two numbers
* Record number sentences in a variety of ways using drawings, words, numerals and mathematical symbols
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | 1. 9 - 1 = \_\_\_\_ 9. 7 – 4 = \_\_\_\_
2. 6 - 4 = \_\_\_\_ 10. 8 – 3 = \_\_\_
3. 5 - 2= \_\_\_\_
4. 10 - 7 = \_\_\_
5. 10 - \_\_\_ = 7
6. 10 - \_\_\_ = 9
7. 10 - \_\_\_ = 8
8. 10 - \_\_\_ = 5
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| WARM UP / DRILL | Write the number sentence \_\_ + \_\_ = 10. Ask one student to write a number in one of the empty spaces and then ask students what the other number is and how they know. Repeat the activity with other numbers and extent to \_\_ +\_\_=20 if appropriate.Write the number sentence 10 – 5 = \_\_\_. Ask one student to write the answer. Repeat the activity with various numbers. Extend to numbers to 20 if appropriate. |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  |  |
| 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 | Counters/ones blocks |

**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 simple addition problems for numbers up to 10 using concrete materials* **Define and reinforce metalanguage used in the unit** eg number line, difference between, jumping back
* Use a **number line and concrete materials** to support subtraction problems
 | LEARNING SEQUENCERemediationES1  | Review number facts up to 10. Ask students to say what two numbers added together equal 10.Draw 6 circles and cross out 2. Ask students how many circles are left. Complete with different number combinations to 10. Discuss the strategies used (counting back). |
| LEARNING SEQUENCES1 | * Use number lines to model and determine the difference between two numbers. Draw a number line on the board with the numbers 1-10. Write the question ‘what is the difference between 6 and 2’. Ask students how they think they could use the number line to assist with the question. First, use concrete materials to determine the **difference between** the two numbers. Then use the number line to show the difference between the two numbers. Show various examples of how to use concrete materials and the number line to find the difference between two numbers. Pay special attention to the fact that you are **jumping back** when finding the **difference between** the two numbers.
* As you are writing the numbers onto the number line point out that the last number on the right side needs to be the larger number of the problem or higher, otherwise you can’t jump back.
* **Investigation:** Draw a number line on the board with the numbers 20-30. Write the question 20 - 5 = \_\_. Ask students how they think they could use the number line to assist with the question. Repeat the discussion with various number problems.
* Ask students what numbers need to go into the number line.
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| LEARNING SEQUENCEExtension Early S2 | * Instead of including all the numbers on the number line only include every second, every third or leave it completely empty and have the students include the numbers.
* Have students working with two digit numbers, eg 44-12.
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| **EVALUATION & REFLECTION** |  |

* 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.