**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**   * Relate addition and subtraction facts for numbers to at least 20, eg 5 + 3 = 8, so 8 – 3 = 5 and 8 – 5 = 3 * Record number sentences in a variety of ways using drawings, words, numerals and mathematical symbols | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | 1. 12 + 4 = \_\_\_\_ 10. 24 + 5 = \_\_\_\_ 2. 16 – 4 = \_\_\_\_\_ 11. 29 - \_\_\_\_ = \_\_\_\_ 3. 16 – 12 = \_\_\_\_ 12. 29 - \_\_\_\_ = \_\_\_\_ 4. 18 + 6 = \_\_\_\_ 13. 17 + 8 = \_\_\_\_\_ 5. 24 – 18 = \_\_\_\_ 14. \_\_\_ - \_\_\_\_ = \_\_\_\_ 6. 24 – 6 = \_\_\_\_ 15. \_\_\_ - \_\_\_\_ = \_\_\_\_ 7. 15 + 7 =\_\_\_\_ 8. \_\_\_\_ - 15 = 7 9. \_\_\_\_ - 7 = 15 | | |
| WARM UP / DRILL | | Practise counting forwards and backwards from 100 using the hundreds chart. Practise counting on from various numbers such as 3, 7 and 10. Practise counting back from various numbers such as 12, 8, and 15. | | |
| 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, counters with stickers on one side, ten frames | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Explicitly communicate lesson outcomes and work quality.** * **Reinforce the pattern** that the beginning number of both subtraction problems is the answer to the addition problem.  Teach and review simple addition and subtraction problems for numbers up to 10 using concrete materials. Extend to numbers beyond 20 if appropriate  * **Define and reinforce metalanguage used in the unit** eg addition, subtraction, number sentence * Use **addition/subtraction stories** to support addition and subtraction problems | LEARNING SEQUENCERemediationES1 | * Students are given 10 counters that have a sticker on one side. Students toss the counters and count how many counters landed with the sticker facing up and how many counters landed with the stickers not showing. Students record their results by drawing the counters and writing the number underneath. * Draw various ten frames and ask students questions such as ‘how many more make 10’   eg |
| LEARNING SEQUENCES1 | * Static addition problems:Describe a static addition problem, such as: *There are five big fish and three little fish swimming in the pool. How can we show the fish? How can we work out the number of fish altogether?* Invite two volunteers to hold connecting cubes to show the situation and encourage individuals to describe how they could work out the total. Say/draw on the board ‘5 fish plus 3 fish equals 8 fish’, 5 + 3 = 8’. Repeat with a variety of questions. Students can also write/draw the number sentences in their books. * This time draw 8 fish on the board and circle/cross out 3 fish. Ask students to think of a number sentence/story to match the picture. Encourage students to think of 8 – 3 = 5. Write the number sentence under the previous sentence. * Next, cross out an additional 2 fish out. Ask students to think of a number sentence/story to match the picture. Encourage students to think of 8 – 5 = 3. Write the number sentence under the previous sentence. * Ask students if they can see a pattern with the three number sentences. What is the same/different. * Write 26 + 12 = 38 on the board. Then write 26 - \_\_\_ = \_\_\_ and 26 - \_\_\_ = \_\_\_\_ (may need to prompt student answers). Continue with a variety of number sentences until students see the pattern. |
| LEARNING SEQUENCEExtensionEarly S2 | * Complete the same activities using three digit numbers. * Write the problem 42 – 16 = 26 on the board. Ask students if they can think of an addition problem that also equals 26. Complete that activity with a variety of starting number sentences. |
| **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.