**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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  **MA1-5NA:** 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 to model the commutative property for addition and apply it to aid the recall of addition facts eg, 4 + 5 = 5 + 4 * Recognise and use the symbols for plus (+), minus (-) and equals (=) | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | 1. **There were six dogs eating dinner and two dogs playing. How many dogs were there altogether?** Write two different number sentences for this story.   \_\_ + \_\_ = \_\_\_  \_\_+\_\_\_=\_\_\_   1. 6 + 4 = \_\_\_ 6. \_\_\_ + 3 = 11   4 + 6 = \_\_\_ \_\_\_ + \_\_\_ = 11  3. 7 + 2= \_\_\_ 7. 16 + \_\_ = 24  2 +7= \_\_ 8 + \_\_ = 26  4. 8 + \_\_\_ = 10  2 + \_\_\_ = 10  5. 12 + \_\_\_ = 16  4 + \_\_\_ = 16 | | |
| WARM UP / DRILL | | Draw a number line on the board with a variety of numbers missing. Ask students to fill in the missing numbers and explain how they knew where the missing numbers went. Eg, the number line could have 8 \_\_ \_\_ \_\_ 12. Students could explain that 10 is two more than 8 and two less than 12. | | |
| 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 | | Domino cards, magnets or pegs | | |

**TEACHING AND LEARNING EXPERIENCES**

|  |  |  |
| --- | --- | --- |
| 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 add, equals, plus, is equal to * Use **concrete materials** to support addition problems | LEARNING SEQUENCERemediationES1 | * Review number facts up to 10 * Using concrete materials (counters) students show a variety of ways they can make the number 10 * Students write/draw number sentences such as ‘6 and 4 make 10’ ‘4 and 6 make 10’ * Students look through a variety of dominoes to find number combinations that add to 10 |
| LEARNING SEQUENCES1 | **Whole Class Instruction and Modelled Activities**   * 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 7 fish’. Repeat with a variety of question. Students can also write/draw the number sentences in their books. * Make various domino cards (a number below 10 on one side and one to four dots drawn on the other side). First show students the number, then show the dots and explain that they need to count on from the number shown. Ask students if it would be quicker to count on from the dots or from the number.Point out the fact that counting on from the number takes longer than counting on from the dots. Ask students what addition sentences could be written to show the answer to the domino. * For this activity either magnets will be needed for the whiteboard or pegs for a piece of paper. Attach eight pegs/magnets on one side and one peg/magnet on another side. Ask students what number sentence could be written and have a student write it on the whiteboard. Write the number sentence again underneath the whiteboard, but switch the two numbers. Ask students what is the same and what is different. Point out the fact that when the larger number is first it is quicker to count on. Complete this activity with various numbers. |
| LEARNING SEQUENCEExtensionEarly S2 | * Students complete 3 or more single-digit static number addition problems * Use domino cards that go beyond 20 * Have students adding two digit numbers to three digit numbers |
| **EVALUATION & REFLECTION** | Monitor student engagement  Take observation notes |

* 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.