**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**MA1-5NA:** 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 addition and subtraction problems involving one- and two- digit numbers
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | 1. 9 + 1 = \_\_\_\_ 8. 16 + 4 = \_\_\_\_
2. 6 + 4 = \_\_\_\_ 9. 19 + 1 \_\_\_\_
3. 7 + \_\_\_ = 10 10. 17 + \_\_\_\_ = 20
4. 8 + \_\_\_ = 10 11. 15+ \_\_\_\_ = 20
5. \_\_\_ + \_\_\_ = 10 12. \_\_\_ + \_\_\_ = 20
6. \_\_\_ + \_\_\_ = 10 13. \_\_\_ + \_\_\_ = 20
7. \_\_\_ + \_\_\_ = 10 14. \_\_\_ + \_\_\_ = 20
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| WARM UP / DRILL | Write the number sentence \_\_ + \_\_= 10. Ask one student to write a number less than ten in one of the empty spaces and then ask students what the other number needs to be to complete the number sentence and how they know. Repeat the activity with other numbers and extend 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
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| RESOURCES | Counters, numbered and dotted dice. |

**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** add, equals, plus, is equal to, take away, minis, the difference between
 | LEARNING SEQUENCERemediationES1  | * Review number facts up to 10 (friends of 10)
* Using counters students show a variety of ways they can make the number 10
* Students write/draw number sentences to 10
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| LEARNING SEQUENCES1 | **Whole class instruction and modelled activities*** **Toss and Add:** At the beginning of the week demonstrate throwing two standard dice and adding the total number. Discuss various strategies used to **add** the two numbers (eg place larger number in your head and count on, this strategy is much quicker than counting one to one).
* In pairs students toss two die and practice adding the two numbers together. Encourage students to use language such as 6 **plus** 4 **equals** 10.
* Number sentences should also be written/drawn.
* Introduce subtraction by asking students to **take away** the larger smaller number from the larger number thrown.

Investigation:* Students could race to see whose total reaches 20 or 30 first. This would require students to add the total of each throw together.
* Students could start with a total of 20, 30, or 50 and then take away the total number of 1 or 2 dice thrown. Counters may need to be used to assist students.
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| LEARNING SEQUENCEExtension Early S2 | * An extra dice can be added to capable students so they are adding, subtracting and creating number sentences for three numbers rather than two.
* Instead of having dice with dots, number dice could be used.
* The goal number could be increased to 100 (students need to add the total of 3 numbers until the reach 100, or students need to subtract the total of 3 numbers until they reach zero).
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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.