**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: 1 | WEEK: 6 | STRAND: NUMBER AND ALGEBRA | **SUB-STRAND:** **ADDITION AND SUBTRACTION** | **WORKING MATHEMATICALLY:** **MAe-1WM; MAe-2WM; MAe-3WM** |
| OUTCOMES: MAe-5NA | * MAe-1WM describes mathematical situations using everyday language, actions, materials and informal recordings
* MAe-2WM uses objects, actions, technology and/or trial and error to explore mathematical problems
* MAe-3WM uses concrete materials and/or pictorial representations to support conclusions
* MAe-5NA combines, separates and compares collections of objects, describes using everyday language, and records using informal methods
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| **CONTENT:**  | **Represent practical situations to model addition and sharing (ACMNA004)*** combine two or more groups of objects to model addition
* model subtraction by separating and taking away part of a group of objects
* use concrete materials or fingers to model and solve simple addition and subtraction problems
* compare two groups of objects to determine 'how many more'
* use visual representations of numbers to assist with addition and subtraction, eg ten frames
* create and recognise combinations for numbers to at least 10, eg 'How many more make 10?' CCT
* describe the action of combining, separating and comparing using everyday language, eg makes, joins, combines with, and, get, take away, how many more, all together LCCT
* explain or demonstrate how an answer was obtained (Communicating, Reasoning)
* apply strategies that have been demonstrated by other students (Problem Solving)
* investigate different methods of adding and subtracting used in various cultures, eg Aboriginal and Torres Strait Islander methods involving spatial patterns and reasoning, Asian counting tools such as the abacus (Communicating, Problem Solving) IUAHCA
* count forwards by ones to add and backwards by ones to subtract
* record addition and subtraction informally using drawings, words and [numerals](http://syllabus.bos.nsw.edu.au/glossary/mat/numeral/?ajax)L
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Have students roll two dot dice to begin, practice subitising numbers. Can use numeral dice too with higher numbers to aid numeral id.
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| WARM UP / DRILL |

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| NUMBER | BODY PART |
| 1 | body |
| 2 | head |
| 3 | feelers |
| 4 | eyes |
| 5 | tongue |
| 6 | legs |

* In pairs, invite children to play ‘Beetle’. Each pair will need a die, and individuals will need their own paper and pencil. Players must throw a one to start. In turn, players throw the die, the shown corresponds to a beetle part (see table) which they draw progressively. The winner is the first person to complete their beetle.
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | TENS activity covered as part of guided and independent activities as EAS is being addressed in this strand. |
| 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 |  Dominoes, dot dice, numeral dice.  |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
|  Students will be given real life opportunities to add two numbers together to make the whole.* Similarly real life subtraction opportunities will also be part of class routines.
* “Friends of ten” concept is explicitly taught and modelled using playing cards. Students each get a card and have to search through the others in the class to find a “friend of ten”

Teaching Points * One to one correspondence
* Visualisation of regular dot patterns
* Counting on from the biggest number
 | LEARNING SEQUENCEPre Foundation Skills | * **Emergent:**
* All dominoes are placed face up on the floor. One domino is placed in the middle as starting the domino train. Students take turns to find a domino with the correct amount of dots and count the dots on one side. When they have counted them and made a match they can add them to the train. Play continues until the train is complete.
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| LEARNING SEQUENCEES1 | * **Perceptual:**
* Students play in pairs with a number of dominoes. They are placed face down on the table. One student turns over a domino and shows their partner and then covers one half of the domino. The partner has to work out how many dots there were all together by visualising what is under the hand. If they count correctly they keep their domino. Play continues until no dominoes left.
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| LEARNING SEQUENCEExtension S1 | * **Figurative:**
* Students turn over two dominoes. They record the four numbers that are on the dominoes whiteboard. They then add them together to find the total. They are encouraged to count on from the biggest number. Students must show connecting lines to demonstrate which numbers were added together.
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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.