**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: 1 | WEEK: 9 | 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) | * Ask students to use Unifix blocks to build two towers, with a different number of blocks in each tower. Invite students to show/tell what is different about their two towers.
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| WARM UP / DRILL | * Spread out 2 sets of dotted numeral cards (1-10) face down on the floor. Invite students to turn over two cards at a time to try and find a matching pair. Continue until all cards have been correctly matched.
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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 |  Numeral cards, dice, dot cards 1-6, counters, blocks. |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Modelled:Hold up dotted tens frames and ask students to count what they can see. Model counting the top row and then the bottom. 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”
 | LEARNING SEQUENCEPre Foundation Skills | * **Emergent: Take a numeral**

Provide the students with a set of numeral cards for the numbers one to six. Arrange the numeral cards face up on the floor in front of the students. The students take turns to roll a standard die and select a corresponding numeral card. If the card has already been taken the student forfeits a turn. Play continues until all cards have been taken. |
| LEARNING SEQUENCEES1 | * **Perceptual:** **Apple Turnovers**

Construct four sets of cards with dot patterns for the numerals 1 to 6. Cards could be made in the shape of apples. Give fifty counters to each pair of students. Shuffle the cards and place them face down on the table. Both players take a card from the pile of cards. The players determine the difference between the two numbers on the apple cards. The player with the larger number takes the difference in counters from his or her partner’s pile of counters. Continue until all cards have been turned over. The player with the most counters is the winner. Students record addition and subtraction informally using drawings, words and numerals. Students record addition and subtraction informally using drawings, words and numerals.  |
| LEARNING SEQUENCEExtension S1 | * **Figurative: Bucket count on**

Drop a small collection of blocks one by one, into a bucket. Ask students to count aloud as each block is added to the container. After dropping the blocks, show the students the contents of the bucket. Then hold the bucket above the eye level of the students. Ask the students to state how many blocks would be in the bucket if one more block was added. Repeat the question, changing the number of blocks to be added to two and three blocks. Encourage the students to count on from the number of blocks already in the bucket to find the total. *Variation* • Ask the students to pretend there are a nominated number of blocks in the bucket. Drop additional blocks into the bucket. Students count on to find the total sum of the blocks in the bucket. • Repeat the activity for subtraction Students record addition and subtraction informally using drawings, words and numerals.  |
| **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.