**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TERM: 1 | WEEK: 7 | 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
 |
| **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
 |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Provide each child with tens frames and seven counters. Encourage them to explore and record a variety of ways of making seven.
 |
| WARM UP / DRILL | * Provide each student with a tens frame and a small pile of different coloured counters. Ask each student to roll a die and place the number of counters indicated on the tens frame.
 |
| 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
 |
| RESOURCES |  Dotted tens frame, double sided counters, containers, tens frame.  |

**TEACHING AND LEARNING EXPERIENCES**

|  |  |
| --- | --- |
| 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”

Teaching Points * Counting groups and use the word ALTOGETHER e.g. there are 3 red counters and 7 yellow counters. There are 10 altogether.
* Friends of ten
* Count on from a number to find missing addend
 | LEARNING SEQUENCEPre Foundation Skills | * **Emergent:**
* Shake, rattle and drop 10 counters. Place counters on a ten frame. Discuss: How many red counters? How many yellow counters? How many counters altogether?
 |
| LEARNING SEQUENCEES1 | * **Perceptual:**
* Shake, rattle and drop 10 counters. Place counters on a ten frame. Discuss: How many red counters? How many yellow counters? How many altogether?Record on whiteboard.

 and makes 10 |
| LEARNING SEQUENCEExtension S1 | * **Figurative:**
* One partner shakes, rattles and drops 10 counters whilst the other closes their eyes. He/she then covers on colour. Student opens eyes and “counts on” to find the missing addend.Record the missing addend on whiteboard.
 |
| **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.