**MATHEMATICS unit 1 EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 1 | STRAND: Number and Algebra | **SUB-STRAND:** Whole Number | **WORKING MATHEMATICALLY:** MAe-1WM, MAe-2WM &MAe-3WM |
| OUTCOMES: Mae-4NA |  **Counts to 30, and orders, reads and represents numbers in the range 0 to 20** |
| **CONTENT:**  | **Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond*** Read numbers at least to 20, including zero, and represent these using objects (such as fingers), pictures, words and numerals
* Estimate the number of objects in a group of up to 20 objects, and count to check
* Use 5 as a reference in forming numbers from 6 to 10, e.g. ‘Six is one more than five’
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Oral counting from 1 to 10 forwards and backwards.
* Best Start Assessment Q1, 3-9, 27-28
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| WARM UP / DRILL | * Rhythmic counting eg 1 **2** 3 **4** 5 **6**… (where the bold numbers are said aloud)
* Circle counting. Students sit in a circle and take turns to count particular groups of students eg the number of students in the class, the students with blue shirts.
* Buzz- counting forwards to 10, ‘Buzz’ on 10, the next student sits down. Then count back from 10, ‘Buzz’ on 0 the next child sits down. Winner is the last one standing.
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| 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 | Poster displays of numbers 1-20, flash cards with numbers 1-20, IWB visual hundreds square, ten frames, dot pattern cards, dice, worksheets on numerals, ipads or computers for CMIT games, pegs, counters, egg cartons |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| **Rhymes, Songs and Stories** Students listen to stories and sing songs and nursery rhymes to develop number concepts eg Three Bears, Five Little Ducks, Ten Fat Sausages**Peg Cards**Students are given a set of large numeral cards (eg 0 to 10). Students take turns to read the numeral on each and attach the corresponding number of pegs.**Lilly Pads:**Use numeral cards lined up in order to create lily pads. The students act as frogs and jump forwards and backwards as the teacher or a child calls out the progression. Could also jump on specific numbers or the number just after or just before a given number.**Look and Say:**Hold up dot pattern cards for approximately one second each. Students state the number of dots shown. **Hundreds Chart and Number line**Count forwards and backwards with reference to a number line of hundreds chart. Identify before and after numbers in the range 0-20 | LEARNING SEQUENCERemediationES1  | **Collecting Numbers:**Students collect numbers that relate to themselves eg phone numbers etc and find examples of where they see numbers in the environment. Make a class display showing examples of numbers brought in by students. Discuss what numbers are and what they represent.**Numbers 0-5**Adapt the activities below to include only numbers in the range 0-5 |
| LEARNING SEQUENCES1 | * **Number Lines:**

Students are given a numeral card in the range of 0-20. The teacher selects a student randomly to peg their number on a string hung across the room. Students discuss the placement. A second student is selected to peg their number on the string considering its placement in relation to the first number. This is repeated for all students, discussing where each number would go, before placement.QuestioningWhat number comes before/after number 5?What numbers go between 7 and 9?Where do you think number 4 will go?How do you know where the numbers go?* **Memory**

Students are given a set of cards with numbers represented bynumerals, pictures, dots, or wordseg +++ 3 threeCards should be provided within an appropriate range eg 0 to10. In pairs or individually, students match the cards.* **Race to 10:**

In pairs, students are each given a set of consecutive number cards eg 0 to 10. They shuffle their cards and place them face down. On ‘Go’ students race to order their cards, placing them face up.*Variation:* The cards are ordered backwards 10 to 0.**Using 5 as a Reference**Students are given an egg carton that has been cut to form two rows of five. Five chicks are placed in the top row and the students use this as a reference for counting numbers up to 10. Students are asked to count numbers up to 10 by placing some chicks in the bottom row of the egg carton. Students compare their arrangements of chicks**Worksheets:** Students complete activities which require them to correctly identify numbers and represents the numbers with drawings.**Assessment –** Can students read and represent numbers up to 20?Can students count forwards to 20 and backwards from 20 accurately? |
| LEARNING SEQUENCEExtension Early S1 | * Number cards are ordered from 0 to 10 across the floor. *Extension:* Students are asked to select two of the numbers from the floor and count from the smallest to the largest, or the largest to the smallest.
* In pairs, students use simple computer graphics to represent the numbers 0 to 20. Students are encouraged to discuss how best to arrange the graphics so that each number can be identified quickly.
* Computer Learning Objects: [Numeral Track](http://www.curriculumsupport.education.nsw.gov.au/countmein/children.htm%22%20%5Ct%20%22_blank)

Identifying the number before and after a given number. The game includes 11 number sets: 1-10, 4-13, 15-24, 26-35, 30-39, 37-46, 43-52, 51-60, 58-67, 72-81, 89-98.<http://www.curriculumsupport.education.nsw.gov.au/countmein/children.htm> |
| **EVALUATION & REFLECTION** | Discuss numbers in relation to how they help us determine the number of objects. Emphasise the need to develop knowledge of the size of numbers, the order and the relationships. Discuss how knowing the numbers will help us learn more in Maths. Ask students how they remember the order and how many each number represents, share everyone’s ideas. Ask students to explain in their words what they have learnt and discuss the new words and their meanings that they have learnt. |

* 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.