**MATHEMATICS EARLY STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 3 | STRAND: Number and Algebra | **SUB-STRAND:** Whole Number | **WORKING MATHEMATICALLY:** MAe-1WM, MAe-2WM &MAe-3WM |
| OUTCOMES: Mae-4NA | **Uses concrete materials and/or pictorial representations to support conclusions****Uses objects, actions, technology and/or trial and error to explore mathematical problem****Uses**  |
| **CONTENT:**  | **Compare, order and make correspondences between collections, initially to 20, and explain reasoning*** Count with one-to-one correspondence(recognise that the number name represents the total number in the collection when counting)
* Make correspondences between collections, eg “I have four counters, you have seven counters. So you have more than me”
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Oral counting from 1 to 20 forwards and backwards.
* Roll two dice, ask students to determine which number is the biggest/smallest number
* Ask student to count to 9 counters and them 15 (SENA 1 Assessment)
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| WARM UP / DRILL | * **Race Against Time**- Place the numerals 1-20 in a container. The children sit in a circle. Choose one child to select a numeral from the container. That child then has to complete a physical challenge in that amount of seconds. For example, one child might pick the number 15 and complete 15 star jumps and get back to their place in the circle while the rest of the class counts back from 15 to 1.
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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 | Number cards, containers, pegs, cardboard strips, DENS text, ten frames, dice, counters, paperclips,  |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
|  **Class Counting**Each child is given a numeral card in the range 0-30 at random. Child with number 1 says their number out loud followed by child with numeral card 2 and so on. Children count out their numbers in correct order. Children use their numeral cards to count backwards. Children use their cards to go and stand in the right order forwards or backwards. Pick two students randomly to stand up. Ask who has the largest number and who has the smallest number.**Numeral Chairs**Attach numeral cards to the seats of chairs. Give each student in the group a card illustrating a group of objects. Students count the objects and, on a given signal, sit on the chair displaying a corresponding numeral card.**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. Discuss whether the numbers are getting bigger or smaller.**Squeeze**Display number line 0-30 in front of class. Place a peg on each end on 0 and 30. A child comes up the front and picks a number from 0-30 card pile and keeps it hidden. Other children ask questions about the mystery number, eg is it lower than 10? Is it odd? The card holder answers only yes or no and moves the pegs to squeeze the range of numbers to where children guess the correct number. | LEARNING SEQUENCERemediationES1  | **Ten Frames**Provide each student with a ten frame and ten counters.Students take turns to roll a die displaying dot patterns, count the dots and place the corresponding number of counters onto the ten frame. The exact number needed to complete the ten frame must be rolled to finish.Variation - Substitute paperclips for counters. Students roll a die and collect the corresponding number of paperclips. They then slide them onto the ten frame squares (see DENS p.55).**Ten Pegs**Provide each student with ten clothes pegs and a length of cardboard displaying ten dots. Students take turns to roll a die and count the dots on the die. After counting the die pattern the student then takes a corresponding number of pegs and attaches them to the cardboard strip, matching each peg to a dot. Play continues until the students have attached pegs to all the dots on their strip of cardboard. They need to roll the exact number needed to finish. |
| LEARNING SEQUENCES1 | **Nearby Numbers**This activity requires children to count on and count back 1 or 2 given numbers.The aim is to collect the greater number of cards by completing correct counting sequences. Cards are shuffled and dealt face down into two equal stacks. The first player draws the top card from his/her stack and positions it correctly in one of the incomplete counting sequences on the game board. The other player has a turn doing the same. Each time both students have picked up a card, ask them to indicate which number is the biggest and which number is the smallest. The player who completes a correct counting sequence by placing the last card in that sequence removes all the cards in that row. These cards are turned over and added to the bottom of their stack. The player with the greatest number of cards after a given time is the winner.**Peg Cards** In pairs, students are given a set of large numeral cards (eg 0 to 30). The cards are not in order. Students take turns to read the numeral on each card to their partner and attach the corresponding number of pegs. The cards are then ordered from 0 to 30 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. **Number flowers**Construct cardboard or paper cut-outs of flowers consisting of a stem and the flower centre. Write a numeral on the centre of each flower. Provide students with a supply of cut-out petal shapes. Students place a number of petals around a flower centre, corresponding to the displayed numeral.**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 | **Celebrity Head**Display a number line showing numbers from 1 to 100 so that all the students in the class can see it. Place movable marker tabs at either end of the strip. One student wears a headpiece to which a numeral card is attached. Ensure that the student does not see the number on the numeral card. Ask the student to have the class help to identify the “secret number”. The class, however, can respond only with a yes or no reply to each question. In response to the answers, the selected student then movesthe tabs along the number line to indicate the range within which the “secret number” lies. Continue the process until the student is able to identify the number.**Guess My Number**Provide a calculator for each pair of students. Ask one student to enter a number into the calculator and hide the screen. Instruct the partner to ask questions which will enable him or her to guess the hidden number on the calculator. |
| **EVALUATION & REFLECTION** | Discuss how we can work out which numbers are bigger or smaller than others.Ask students how they remember the order of the numbers and how many each one represents. Share everyone’s ideas. Ask students to share, in their words, what they have learnt. Discuss how students worked out where missing numbers went, did they count from 1, or did they use another way to help them? Eg using counting on from 5. Discuss quick ways to work out the order of numbers without going back to 1. Share everyone’s ideas.Show the children a variety of coins and ask the children to pick one coin and justify why. Relate responses back to face value. |

* 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.