



Listing-Counting-Reasoning

Lesson Plan: Class 02 / LCR / 02



MODULE 1: **Module time:** 35 minutes

Overall goal of the lesson	Being able to understand patterns and relations and determine if a set is complete
Prior knowledge required	Numbering system, Even/Odd numbers, multiplication by two
Goal:	Find the missing numbers to complete a set of numbers
Description:	Identify a set of numbers and find the numbers missing in that set
Material required:	<p>Physical: Printed worksheets, color pencils/crayons, regular writing pencils, old calendars and card paper to make numbered cards, glue or staple. 10 caps of a common drinking water or any plastic bottle, and marker pens to write numbers inside.</p> <p>Electronic: PPT – Accompanying presentation</p>
NOTE	Students may need multiple copies of all worksheets to retry and get to the correct solution. Please be prepared for 2 or even 3 copies of a worksheet per student.
Procedure Details:	<ul style="list-style-type: none"> ● This is expected to be an activity filled but simple lesson for the class ● Use old calendars to create numbered cards. <ul style="list-style-type: none"> ○ Simply cut the numbers for dates and glue or staple them to card paper ○ Create equal sized card paper cards, but only with even numbers for the activity ○ Ensure children take a note to identify similar looking numbers and are able to clearly distinguish the cards ○ No two cards can be same face value (number displayed on them) ○ Make cards following these rules, such that for every student desk there is one card, and that... ○ Each card is even numbered and represents a desk number half of the face value (number on the card) ● Choose 3 volunteers to assist in the activity ● Make the children count the benches in the class ● Help students understand that number of cards and number of desks are same ● Now ask the volunteers to hide those cards with a simple rule such that all cards can be found by the rest of the class and no card will be too difficult to find ● Allow the rest of the students to find those cards – help them find if needed ● Have them lay those cards on your table in the same pattern as student desks ● Ask questions on how they know it is a complete set <ul style="list-style-type: none"> ○ Total number of cards = total number of desks ○ All cards with even numbers are found ○ Ask what is the minimum card value and what is the maximum card value ○ If the upper number is too high, adjust the desk count and card count appropriately to control the upper bound of the card value in the card set ● Repeat a similar exercise with plastic bottle caps ● Explain the principle of a number set, the lower and upper bound and a pattern ● Explain how that helps solve a puzzle in an activity
Summary	<ol style="list-style-type: none"> 1. The students can determine the lower and upper bounds for a set of numbers 2. Once they establish a pattern, they can find all missing numbers in that set

Optional	The worksheet is completely optional and can be used as a home assignment some students to read up on.
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