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**Lesson 2-Numbers Up to 200**

**Teaching & Learning Materials: Numbers Up to 200 (Grade 2)**

**I. Core Concepts and Content Areas:**

1. **Number Representation and Counting (Concrete to Abstract)**

    ◦ **Visual Aids**: Utilize physical models or diagrams illustrating that a **sheet is made of 10 strips and makes a hundred**, a **strip is made of 10 small blocks and makes a ten**, and a **single block is one**.

    ◦ **H, T, O Columns**: Introduce and consistently use the Hundreds (H), Tens (T), and Ones (O) columns to represent numbers.

        ▪ *Activity*: Show images of blocks/strips/sheets and ask students to write the "Number formed" and its "Number name" in a table        ▪ *Example*: For **183**, show 1 hundred, 8 tens, and 3 ones blocks. For **126**, show 1 hundred, 2 tens, and 6 ones2. For **200**, show 2 hundreds.

    ◦ **Counting in Groups**: Emphasize how "we can count objects easily by grouping them into groups of hundreds, tens and ones".

        ▪ *Activity*: "PEP" tasks where students count balls in packets (tens/hundreds) and loose balls (ones). Explain how adding 1 more than 99 makes 100

2. **Number Names**

    ◦ **Writing Number Names**: Practice converting numerals to words

        ▪ *Examples*: Write number names for **109** and **176**.

        ▪ *Activity*: Provide numbers like **101** ("one hundred and one"), **103** ("one hundred and three"), and **115** ("one hundred and fifteen") for practice.

    ◦ **Matching Numbers to Names**: Use exercises where students match given numbers to their corresponding names

        ▪ *Examples*: Match "one hundred and sixteen" to 116, "one hundred and thirty-five" to 135, and "one hundred and eighty-three" to 183.

3. **Place Value and Face Value**

    ◦ **Definitions**: Clearly define **Face Value** as the value of the digit itself, and **Place** as the position of the digit (ones, tens, hundreds). Define **Place Value** as the value a digit holds based on its position

    ◦ **Identification Tasks**: Use tables to practice identifying the Face Value, Place, and Place Value of specific digits, especially those highlighted

        ▪ *Examples*: For the digit '2' in **125**, identify its face value (2), place (tens), and place value (20). For the digit '1' in **100**, identify its place value (100) In **183**, the place value of 8 is 80 because it's in the tens place, and the face value is 88.

    ◦ **Audio-Visual Aids**: Strongly recommended for teaching Face Value and Place Value

4. **Expanded Form**

    ◦ **Concept**: Teach that expanded form shows a number as the sum of the place values of its digits.

    ◦ **Conversion**: Practice converting standard numbers to their expanded form.

        ▪ *Examples*: Write the expanded form for **144, 190, 101, 113**. The expanded form for **195** is **100 + 90 + 5**.

    ◦ **Reverse Conversion**: Practice converting expanded forms back to standard numbers.

        ▪ *Example*: The number represented by **100 + 40 + 4** is **144**. The number represented by **100 + 20 + 5** is **125**.

5. **Ordering and Comparing Numbers**

    ◦ **Comparison Rules for Three-Digit Numbers**:

        ▪ First, compare the digits in the **hundreds place**.

        ▪ If the hundreds digits are the same, compare the digits in the **tens place**.

        ▪ If both hundreds and tens digits are the same, compare the digits in the **ones place**.

        ▪ *Example*: **179** is greater than **134** because 179 has more tens than 134.

    ◦ **Comparison Symbols**: Practice filling boxes with **<, >, or =**.

        ▪ *Examples*: Comparing **179** and **176**11, or **152** and **129**.

    ◦ **Ascending Order**: Arranging numbers from the smallest to the largest.

        ▪ *Activity*: Provide lists of numbers to arrange in ascending order, such as **105, 132, 123** or **100, 181, 104, 137**.

        ▪ *Note*: One source describes "trees arranged from tallest to shortest" as "ascending order of height". While this phrasing is unusual for the standard definition of ascending (which typically means smallest to largest), it is presented in the source as an example of comparison.

    ◦ **Descending Order**: Arranging numbers from the largest to the smallest.

        ▪ *Activity*: Provide lists of numbers to arrange in descending order, such as **166, 135, 152, 119** or **128, 112, 178, 200**.

    ◦ **Audio-Visual Aids**: Recommended for teaching Ascending and Descending order.

6. **Sequential Numbers**

    ◦ **Before/After/Between**: Practice identifying numbers that come just before, just after, or between given numbers.

        ▪ *Examples*: Write numbers that come after **149**, before **131**, between **157 and 161**.

**II. Recommended Activity Types and Pedagogical Approaches:**

• **Question Time**: Structured exercises covering number names, expanded forms, place values, and number sequences.

• **Practice Time**: Hands-on and conceptual exercises, including arranging numbers and multiple-choice questions reinforcing concepts like face value, place value, and expanded form

• **Companion Project Time**: These are practical, hands-on activities that encourage direct engagement

    ◦ *Examples*: "Form the numbers. Fill in the boxes with the digits and the number name" using visual representations. "Complete the concept map" on 3-digit numbers up to 200, connecting concrete representations (beads, HTO table) to concepts like "number formed," "number name," and "expanded form". Activities involving counting chocolates in packets and loose ones, which reinforces grouping in tens and hundreds.

• **PEP (Performance Enhancement Program)**: Focuses on practical counting and understanding how numbers increment to form tens or hundreds.

    ◦ *Example*: Counting balls in packets and loose balls to understand total quantities. Learning how "by having 1 more ball, Raman can make another packet of 10 balls".