Understanding Place Value

Common Core Standard

1.NBT.A.1: Understand the place value of digits in a number.

Lesson: Understanding Place Value in the Base-Ten Number System

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Objective:
Students will demonstrate their understanding of the place value of digits in numbers by creating and explaining a visual representation of a given number using base-ten blocks, place value charts, and real-world examples like money and measurements.

Materials:

- Base-ten blocks (units, rods, and flats)
- Place value charts
- Construction paper or cardboard
- Markers, glue, and scissors
- Play money (bills and coins)
- Sample real-world data (e.g., prices, distances, or weights)

Safety Precautions:
Ensure all materials, especially small items like base-ten blocks and coins, are used responsibly. Supervise their use to avoid any potential choking hazards or accidental ingestion. Provide clear instructions to handle scissors and glue carefully during the project.

Procedures:

1. **Introduction to the Project:**
    - Explain the importance of place value in understanding numbers.
    - Introduce the task: students will create a visual representation of a multi-digit number using base-ten blocks and a place value chart.
2. **Select a Number:**
    - Assign each student or group a unique number (e.g., 236, 528).
    - Provide examples of how to break the number into hundreds, tens, and ones.

3. **Create a Visual Representation:**
    - Students will use base-ten blocks to represent the number physically.
    - Glue images or draw representations of the base-ten blocks on a piece of cardboard.
    - Label each section with the corresponding place value (hundreds, tens, ones).
4. **Connect to Real Life:**
    - Ask students to connect their number to a real-world scenario. For example, "$236 can be represented with 2 hundred-dollar bills, 3 ten-dollar bills, and 6 one-dollar bills."
    - Alternatively, relate it to measurements like 236 meters or 528 grams.
5. **Presentation:**
    - Students will explain their visual representation to the class, describing the value of each digit in their number and its real-world application.

Note: Clean-Up
Ensure all materials, such as base-ten blocks, scissors, and play money, are collected and stored neatly after the activity. Encourage students to clean their workspaces and dispose of scraps responsibly.