

# Understanding Place Value

## Common Core Standard

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

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**A. GRADE LEVEL:** 2nd–3rd grade

**B. SUBJECT:** STEM/Math

**C. DATE:** [Insert Date]

**D. DURATION:** Two days (45 minutes per session)

**E. LESSON FOCUS:** Base-ten number system and understanding place value in the context of money and measurement.

**F. MATERIALS:**

- Base-ten blocks (units, rods, and flats)
- Place value charts
- Number cards (1–9)
- Play money (bills and coins)
- Whiteboard and markers
- Worksheets for practice

**G. LESSON OBJECTIVES:**

By the end of this lesson, students will be able to:

1. Explain the place value of digits in a number (ones, tens, hundreds).
2. Use the base-ten system to represent numbers with physical objects.
3. Apply their understanding of place value to real-world examples like money and measurements.

**H. PROCEDURES:**

**1. INTRODUCTION:**

- Begin by discussing why we use numbers and where we see them in daily life (e.g., clocks, money, measurements).
- Introduce the base-ten system, explaining how it helps us organize numbers.
- Write the number 243 on the board and ask, “What does each digit represent?” Discuss the concepts of ones, tens, and hundreds.

**2. EXPERIMENT:**

- Distribute base-ten blocks and place value charts to students.
- Write a number on the board (e.g., 156) and have students build it using the blocks.
- Practice decomposing numbers into expanded form (e.g.,  $156 = 100 + 50 + 6$ ).
- Introduce real-world scenarios: use play money to represent amounts like \$132, breaking it into \$100 bills, \$10 bills, and \$1 coins.

**3. OBSERVATION:**

- Ask students to compare two numbers and determine which is larger based on the place value of their digits.
- Observe how different students represent numbers with the blocks and ensure they correctly assign values to the digits.

**4. GENERALIZATION:**

- Discuss how understanding place value makes it easier to work with large numbers, perform addition and subtraction, and understand real-life applications like counting money or measuring distances.
- Highlight patterns in the base-ten system (e.g., every new place is 10 times the value of the one before it).

**5. ASSESSMENT:**

- Provide a worksheet where students identify the place value of digits in different numbers, write numbers in expanded form, and solve simple word problems involving money or measurement.
- Review answers as a class and address common misconceptions.

**Note 1: Safety**

Ensure that small items like base-ten blocks and coins are handled carefully and kept away from younger siblings to prevent choking hazards. Supervise the use of materials to avoid loss or mishandling.

**Note 2: Accommodation for ELL/ESE Students**

Provide visual aids, such as labeled diagrams of base-ten blocks and a bilingual place value chart for ELL students. Pair ELL and ESE students with peers for support during group activities. Use simple language, repetition, and hands-on activities to reinforce concepts. Allow additional time for assessments if needed.