Place Value Mat Activities

Strand: Number and Number Sense

Topic: Read, write and identify the place and value of each digit in a number

Primary SOL: 3.1 The student will
   a) Read, write, and identify the place and value of each digit in a six-digit whole number, with and without models
   b) Round whole numbers, 9,999 or less, to the nearest ten, hundred, and thousand; and
   c) Compare and order whole numbers, each 9,999 or less

Related SOL: 3.3a estimate and determine the sum or difference of two whole numbers

Materials:
- Base-10 blocks
- Place-value Mat (attached)
- Clear plastic sleeves
- Dry erase markers

Vocabulary:
 place, value, place value, equal, greater than, greatest, least, less than, round, estimate, estimation, add, subtract, sum, difference

Student/Teacher Actions: What should students be doing? What should teachers be doing?

Select the attached Place Value Mat that best suits your lesson. Prepare Place Value Mat activity by putting mats in clear plastic sleeves.
Directions:

1. The teacher calls out a number (digit) for students to write on place value mat. Numbers may be drawn from a bag of tiles, rolled from a die or called out randomly.
2. Students can write the number in any place on their place value chart (therefore students will each create their own number). The goal is to create your own 4-digit number not to create a number with the greatest value.
3. Call out enough numbers to fill the place value spaces.
4. When all place values are filled students should read their number aloud to their partner.

Use the workspace to:

1. Have students compare their number with a partner's number. Which is greater? Which is less?
2. Write your number in expanded form.

3. Represent your number in two other ways.
4. Round your number to the nearest ten, hundred and thousand.
5. Which number has more hundreds? Thousands?
6. What is the sum of the two numbers?
7. What is the difference between the two numbers?
8. Estimate the sum. Estimate the difference.
9. In small groups have students compare and order their numbers from least to greatest or greatest to least. Who has the greatest thousands? The greatest hundreds? The greatest tens?

Assessment
- **Questions**
    - When comparing four-digit numbers to determine which number is greater, what place value should be considered first? Why?
    - What are two ways to represent your number?
    - How can a number line be helpful in comparing numbers?

- **Journal/writing prompts**
    - Write an explanation to a friend about how to determine which of the following numbers is the greatest and which is the least.

        3,456   3,546   3,654   3,564
    - Write the following number on your Place Value Mat.

        2, 146
        - Round it to the nearest ten, hundred and thousand.
        - Represent the number a different way.
        - Write the expanded form of the number.

- **Other Assessments**
    - Circulate during the activity to observe students' strategies and rationales for creating the models of the three-digit numbers and comparisons. Note who is having difficulty identifying the values, making the models of them, and/or comparing numbers. Give help, as needed.
    - Use one of the sheets as an exit ticket. Have students generate a 4-digit number and round it to the nearest ten, hundred and thousand.

Extensions and Connections (for all students)
- Students can work in small groups or with a partner. Each student may take turs to roll a number cube and then place numbers on the place value chart and follow the directions for rounding, comparing, adding and subtracting numbers.
- Have students put the number 9,846 on the mat. Have them round to the nearest ten, hundred and thousand. Explain what happens when rounding each.
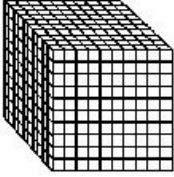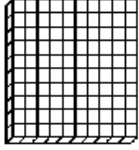
Strategies for Differentiation

- Students that struggle may benefit from starting with the place value chart that has base 10 blocks. Start with the 3-digit and build up to the 4-digit.
- Use a deck of cards instead of number cubes. Remove the 10 and face cards first. Shuffle and place face down. Students can take turns drawing from the top of the deck and writing the number on their mat. Play the game having students work to create numbers with the greatest value or least value. Talk about strategies for placing numbers.
- Students may need to build numbers using base 10 blocks as they work through the steps of rounding, comparing and adding/subtracting.

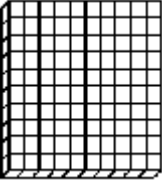**Note: The following pages are intended for classroom use for students as a visual aid to learning.**

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THOUSANDS	HUNDREDS	TENS	ONES

WORKSPACE

THOUSANDS	HUNDREDS	TENS	ONES

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HUNDREDS	TENS	ONES

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