

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:** 2.1 The student will
- read, write, and identify the place and value of each digit in a three-digit whole number, with and without models;
 - compare and order whole numbers, each 999 or less

Related SOL: 2.6

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.

Demonstrate the partner activity whole group first. Each student needs their own Place Value Mat in a clear plastic sleeve and a dry erase marker.

1. Roll a die, pull a number tile or digit card and have students record the number called anywhere on their mat.
2. Call enough numbers to fill all place values.
3. Have students read their number to a partner. Have them then compare numbers to see who made the greater number. Who made the number with the least value?
4. Have students write their number in expanded form.
5. Circulate throughout the class to ensure that students understand comparisons as well as reading and writing their numbers in various forms.

Partner activity:

1. Each partner takes turns rolling a die and writing the number in one of the places on the place value chart. Continue until all place value spaces are filled.
2. When all place values are filled students should read their number aloud to their partner.

3. Write the number in expanded form in the workspace below.
Example: $40 + 3 = 43$
4. Draw your representation using base ten blocks.

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.
5. Which number has more tens? ones?
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 number? Who has the greatest hundreds? The greatest tens?

Assessment

- **Questions**
 - When comparing three-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.
456 546 654 564
 - Write the following number on your Place Value Mat.
348
 - 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 3-digit number and represent it two ways.

Extensions and Connections (for all students)



- Have students put the number 846 on the mat. Have them represent the number in two different ways. Have them add ten to their number. What is the new number? Add one hundred to the number. What is the new number? Subtract ten and then one hundred. What are the new numbers?
- Have students do the same activity with 2-digit numbers and round to the nearest ten. Have them add their number and their partner's number and find the difference between them. They should also estimate the sum and difference.

Strategies for Differentiation

- Students that struggle may benefit from starting with the place value chart that has base 10 blocks. Start with the 2-digit and build up to the 3-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.

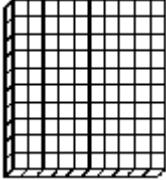


Note: The following pages are intended for classroom use for students as a visual aid to learning.

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