Lesson 9: Same Digit, Different Value

- Let's describe the relationship between the digits in multi-digit numbers.

Warm-up: True or False: Expanded Expressions

Decide if each statement is true or false. Be prepared to explain your reasoning.

- $4{,}000 + 600 + 70{,}000 = 70{,}460$

- $900{,}000 + 20{,}000 + 3{,}000 = 920{,}000 + 3{,}000$

- $80{,}000 + 800 + 8{,}000 = 800{,}000 + 80 + 8$

9.1: Card Sort: Large Numbers

Your teacher will give you and your partner a set of cards with multi-digit numbers on them.

1. Sort the cards in a way that makes sense to you. Be prepared to explain your reasoning.

2. Join with another group and explain how you sorted your cards.

3. Write each number in expanded form.

   a. 4,620

   b. 46,200

   c. 462,000

4. Write the value of the 4 in each number.

5. Compare the value of the 4 in two of the numbers. Write two statements to describe what you notice about the values.

   _____

   _____

6. How is the value of the 2 in 46,200 related to the value of the 2 in 462,000?

9.2: Expand Large Numbers

1. Express each number in standard form, expanded form, and word form.

number	expanded form	word form
784,003		
	$50,000 + 9,000+$ $300 + 60 + 1$	
		eight hundred three thousand, ninety-nine
310,060		
		nine hundred thirty-four thousand, nine hundred

2. Choose two numbers from the table to make this statement true:

    The 3 in _____ is ten times the value of the 3 in _____.

3. Explain why you chose those numbers.

    _____

    _____

4. Find two classmates who chose different numbers than you did. Record their numbers. Take turns sharing your completed statements and explaining your reasoning.

    ○ The 3 in _____ is ten times the value of the 3 in _____.

    ○ The 3 in _____ is ten times the value of the 3 in _____.