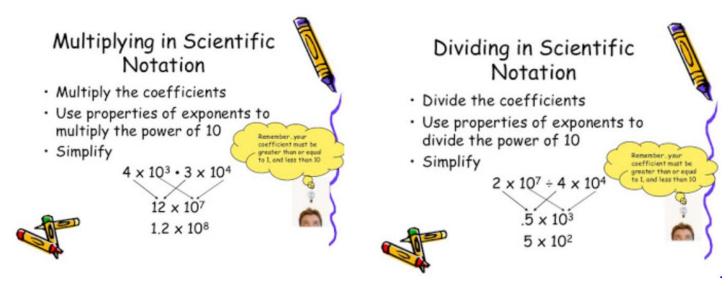
Grade 6 Gifted Day 3

Standards	8.EEI.4 Apply the concepts of decimal and scientific notation to solve real-world and mathematical problems.	
	a. Multiply and divide numbers expressed in both decimal and scientific notation.	
Learning Targets	I can multiply and divide numbers in decimal and scientific notation.	
I Can Statements		
Essential Question(s)	How can I apply scientific notation in the world around me?	
Resources	No additional resources needed. However, all answers should be written on a separate sheet of paper.	
Learning Activities or	Complete at least 3 topics of your ALEKS pathway. (if available)	
Experiences	 Review attached notes and complete the practice problems. Complete the "Today's Thought" activity. 	

NOTE: For additional practice aligned to your grade for SC READY review please refer to the 6^{th} grade level assignments.

Lesson Notes

This mini lesson will allow you to apply those concepts learned with "Laws of Exponents." Review the examples below.



Your final answer should always be in scientific notation. A number is written in scientific notation when the coefficient number is between 1 and 10 and it is multiplied by a power of 10. Identify from the list below which numbers are in scientific notation.

a.
$$3.2 \times 10^{-3}$$

b.
$$11.3 \times 10^2$$

c.
$$0.33 \times 10^{-5}$$

d.
$$7 \times 10^{0}$$

Today's Thought

- 1. Which equation is true?
 - a. $(6 \times 10^2) \cdot (1.5 \times 10^{-4}) = 9 \times 10^{-8}$
 - b. $(6 \times 10^2) \cdot (1.5 \times 10^{-4}) = 4 \times 10^6$
 - c. $(6 \times 10^{-2}) \cdot (1.5 \times 10^{4}) = 9 \times 10^{-8}$
 - d. $(6 \times 10^{-2}) \cdot (1.5 \times 10^{4}) = 4 \times 10^{2}$
- 2. Which is equivalent to the product of 6×10^{-9} and 3×10^{7} ?
 - a. 1.8 x 10⁻¹
 - b. 1.8 x 10⁻⁶³
 - c. 9×10^{-2}
 - d. 9 x 10⁻⁶³
- 3. A TV provider had 2.982×10^7 subscribers at the beginning of 2015. At the end of the year, the TV provider had 1.235×10^5 subscribers. *Approximately* how many more subscribers did the TV provider have at the beginning of 2015 than at the end?
 - a. 2.29 x 10⁰ subscribers
 - b. 2.29 x 10¹ subscribers
 - c. 2.29 x 10² subscribers
 - d. 2.29 x 10³ subscribers
- 4. Ivan's work while simplifying (0.00085)(1.2 x 10⁹) is shown.

Step	Work
Given	(0.00085)(1.2 x 10 ⁹)
Step 1	(8.5 x 10 ⁻⁴)(1.2 x 10 ⁹)
Step 2	(8.5 x 1.2) x (10 ⁹⁻⁴)
Step 3	10.2 x 10 ⁵
Step 4	1.02 x 10 ⁴

In which step is Ivan's work incorrect, and why?

- a. In Step 1, 8.5×10^{-4} should be 8.5×10^{4} .
- b. In Step 2, 10^{9-4} should be $10^{9(-4)}$.
- c. In Step 3, 10.2 should be 9.7.
- d. In Step 4, 1.02×10^4 should be 1.02×10^6
- 5. A certain cell is 1.7×10^{-6} meters in diameter. When viewed under a microscope lens, the size of the cell is multiplied by 1,000.

The size of the diameter of the cell when viewed under the microscope can be written as 1.7×10^x meters. What is the value of x?