Do Now: Turn Wkbk pages into the bin. (Staple them)

- 1. Tell whether the number is very small or very large.
- a. 1.234 x 105 Very large
- b. 1.234 x 105)
- 2. Explain how you can tell whether a number is very small or very large when the number is written in scientific notation.

$$1.234 \times 10^{5} = 123,400$$
 $1.234 \times 10^{-5} = .00001234$
 00001.234

4.8 Scientific Notation

7.NS 8.EE

- SWBAT read and write numbers using scientific notation.
- SWBAT understand patterns and how operations are related.
- Calculators: No

Scientific Notation

A number is written in scientific notation if it has the form:

32,000,000

©x 10^n , where $c \ge 1$ and c < 10

Standard form	Scientific Notation
120,000,000	1.2 × 10 ⁸
0.00012	1.2 x 10 ⁻⁴
32,000,000	3.2 x 10 ⁷
.0000869	8.69 x 10 ⁻⁵

.00008;69

Scientific Notation	Standard Form
1 7.2 x 10 ⁵	720,000
2 4.65 x 10-7	.000000465
3 4.1 x 10 ⁵	410,000
(4) 2.15 x 10 ⁻³	.00215
3.5 × 103	3,500
Q 2.48 ×10 ⁶	2;480,000
5.1×10-4	0.00051
	4

There are over 300,000,000,000 stars in the Andromeda Galaxy. Write in scientific notation.

A molecule has a diameter of approximately 0.000000004,cm. Write in scientific notation.

9 places
8 zeros 4×10^{-8} 4×10^{-7}

The thickness of a soap bubble is about 0.000009 meter. What is the thickness of a soap bubble written in scientific notation?

A cubic meter of aluminum has a mass of 2700 kg. What is the mass written in scientific notation?

Write the product in scientific notation.

$$(4.5 \times 10^{3}) * (6.3 \times 10^{7})$$

$$(4.5 \cdot 6.3) \times (10^{3}) \cdot 10^{5}$$

$$28.35 \times 10^{10+1}$$

$$2.835 \times 10^{10}$$

$$(3.2 \times 10^{4}) * (4.1) \times 10^{-8}) \quad 466 \quad -4 + (-8)$$

$$(3.2 \times 10^{-4}) \times (10^{-4}) \times (10^{-8})$$

$$(3.2 \times 10^{-4}) \times (10^{-10})$$

$$(3.2 \times 10^{-10}) \times (10^{-10})$$

$$(1.312 \times 10^{-11})$$

Write the product in scientific notation.

$$(2.6 \times 10^{7}) * (3.1 \times 10^{-3})$$

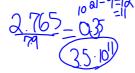
Write the quotient in scientific notation.

$$\begin{array}{c}
4.08 \times 10^{6} \\
\hline
3.4 \times 10^{2}
\end{array}$$

$$\begin{array}{c}
(4.08 \times 10^{6}) \times (10^{6}) \times (10^{6})$$

Write the quotient in scientific notation.

$$\frac{2.765 \times 10^{21}}{7.9 \times 10^9}$$



Exit Pass 4.8

- 1. Write 250,000 and 0.000025 in scientific notation.
- 2. Explain how you can tell whether a number is very small or very large when the number is written in scientific notation.
- 3. Explain why 12.5×10^7 is <u>**not**</u> written in scientific notation.

"Don't blame the sea if you cannot catch a fish."

Working individually or with a partner, complete the workbook.

Workbook pg.



Reflection of Today's Lesson 4.8 Scientific Notation

7.NS 8.EE

- SWBAT read and write numbers using scientific notation.
- SWBAT understand patterns and how operations are related.
- Calculators: No

4.8 MC3.notebook November 23, 2015

<u>Homework</u>

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