

Do Now:

1. Tell whether the number is very small or very large.

a. 1.234×10^5
Very large

b. 1.234×10^{-5}
Very small

2. Explain how you can tell whether a number is very small or very large when the number is written in scientific notation.

$1.234 \times 10^5 = 123,400$

1.23400

$1.234 \times 10^{-5} = 0.00001234$

00001.234

4.7 Scientific Notation

7.NS
8.EE

- SWBAT write numbers using scientific notation.
- SWBAT understand ways of representing numbers.

• Calculators: No

Using Scientific Notation

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

$c \times 10^n$, where $1 \leq c < 10$

Standard form	Scientific Notation
120,000,000	1.2×10^8
0.00012	1.2×10^{-4}
32,000,000	3.2×10^7 (7 to right)
.0000869	8.69×10^{-5} (5 to left)

$.0000869$

Scientific Notation	Standard Form
① 7.2×10^5	720,000
② 4.65×10^{-7}	.000000465
③ 4.1×10^5	410,000
④ 2.15×10^{-3}	.00215
⑤ 3.5×10^3	3,500
⑥ 2.48×10^6	2,480,000
⑦ 5.1×10^{-4}	0.00051 4

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

$$3 \times 10^{10} \times \quad 0.3 \times 10^{12} \times$$

$$3 \times 10^{12} \times \quad 1 \leq c < 10$$

$$3 \times 10^{11} \times$$

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

9 places ~~X~~

$$4 \times 10^{-9} \times$$

$$4 \times 10^{-8} \times$$

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.

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

$$(4.5 \cdot 6.3) \times (10^3 \cdot 10^7)$$

Add

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

$$(2.835 \times 10^{11})$$

Write the product in scientific notation.

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

$$(3.2 \cdot 4.1) \times (10^{-4} \cdot 10^{-8})$$

Add
-4 + (-8)

$$13.12 \times 10^{-12+1}$$

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

Write the product in scientific notation.

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

Write the quotient in scientific notation.

$$\frac{4.08 \times 10^6}{3.4 \times 10^2}$$

$$\left(\frac{4.08}{3.4}\right) \times \left(\frac{10^6}{10^2}\right)$$

Subtract
6-2

$$(1.2 \times 10^4)$$

Write the quotient in scientific notation.

$$\frac{2.765 \times 10^{21}}{7.9 \times 10^9} = 0.35 \times 10^{12-1}$$

$$3.5 \times 10^{11}$$

Exit Pass 4.7

1. Write 250,000 and 0.000025 in scientific notation?
2. Give an example of a number between 0 and 1 written in scientific notation.
3. Explain why 12.5×10^7 is **not** written in scientific notation.

$$1.25 \times 10^8$$

"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

4.7 Scientific Notation

7.NS
8.EE

- SWBAT write numbers using scientific notation.
- SWBAT understand ways of representing numbers.

• Calculators: No

Homework

Test Review

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