

7th Grade Lesson 51

- I can use scientific notation to express large numbers.
- I can rewrite numbers written in scientific notation in standard form.



$$0.0534 \times 1000 =$$

$$1000 = 10^3 \quad \underbrace{1000} \quad \underbrace{100}$$

$$\underbrace{0.0534} \times 10^3 = 53.4$$

When we multiply a number by a positive power of 10, we move the decimal point to the right the number of places indicated by the exponent.

Scientific Notation is a way of writing very large or very small numbers.

* 5,320,000,000.

3 Steps for writing in scientific notation.

1. Place the decimal point just to the right of the first nonzero digit. 5.32
2. Count the number of places the decimal point moved. 9
3. Multiply the number in step one by 10^b (b is the number of places the decimal point moved).

* $5.32 \cdot 10^9$
5,320,000,000

Write 40,720,000 in scientific notation.

$4.072 \cdot 10^7$

40,720,000

Write 2.46×10^8 in standard form.

$$2.46 \cdot 10^8 = 246,000,000$$

Compare: 1.2×10^4 $\textcircled{>}$ 2.1×10^3

12,000

2,100

Write each number in scientific notation:

a) two hundred fifty billion

b) 400,000,000,000

c) 5,090,000

Write each number in standard notation:

d) 5×10^6

e) 4.3×10^5

Compare:

f) 1.5×10^5 1.5×10^6

g) one million 1×10^6

Assignment:

Problem Set 51

2, 3, 6, 7, 10, 11, 14,
16, 17, 18, 19

