

Introduction to Scientific Notation

Objective: I can use scientific notation to express very large or very small quantities.

Guided Practice:

Scientific Notation- when you are dealing with very **large** or very **small** numbers, it is helpful to be able to write them in a shorter form.

<u>Scientific Notation</u>	=	<u>Standard Form</u>
2.59×10^{11}		259,000,000,000

Rule: A number is in Scientific Notation if:

(1-9)

- 1) The first factor is a single digit followed by a decimal point
- 2) Multiplied by the second factor which is a power of 10.

Yes or No

Exercise 1- Determine if the following numbers are written in scientific notation:

- (1) 3.2×10^4 (2) 78.96×10^4 (3) 456.1×10^{-8} (4) $9. \times 10^{-5}$

Yes.

No, two digits

No, three digits

Yes

Scientific Notation: When to use Positive Exponents and Negative Exponents

A number in scientific notation with positive exponents represents a number greater than one (whole number). * Large

A number in scientific notation with negative exponents represents a number between 0 and 1 (decimal). * Small

Remember:

Positive Exponent → _____

Negative Exponent → _____

Exercise 2- Determine if the following numbers below will be whole numbers or decimals.

(1) 1.2×10^5

whole #

(2) 5.8×10^{-5}

decimal

(3) 6.8×10^{-9}

decimal

(4) 3×10^9

whole #