

Ch 1 The Nature of Science: SECTION 2 Methods of Scientists

Skim Section 2. Using what you already know and what you learn from skimming the section, describe how scientists use mathematics in their work.

Use your text to define each term.

1. Scientific methods _____

2. Hypothesis _____

3. Independent variable _____

4. Dependent variable _____

5. Control _____

6. SI units _____

7. Scientific notation _____

8. Bias _____

Compare independent and dependent variables by completing the following sentences.

The _____ is a factor that is manipulated by the experimenter. A(n) _____ is a factor that can change if the _____ is changed.

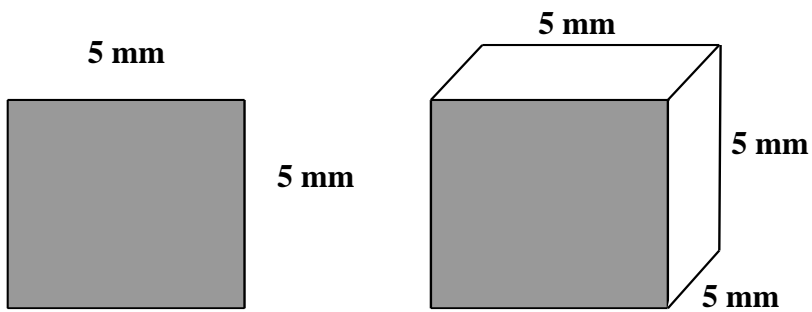
Summarize the safety rules given in the Reference Handbook. Use with page 904.

Important Safety Rules	

Organize the concepts of measurement by completing the table. Use with pages 13–15.

Quantity represented	What is measured	SI unit	Abbreviation
	The amount of matter in an object	kilogram	kg
Length			m
			N
	Average kinetic energy of the particles that make up a material	degrees Celsius	°C
	The amount of space occupied by an object	cubic meter	m ³
Temperature		degrees kelvin	K
	Amount of surface included within a set of boundaries		cm ²
Time			s
	A measure of the amount of matter that occupies a given space		g/cm ³

Calculate the area of the square and the volume of the cube. Use with page 14.



Answer:

Answer:

Compare how area and volume are similar. _____

Summarize scientific notation by completing this table with words from the list.

- after
- before
- negative
- positive

Numbers Greater than 1	Numbers Less than 1
Zeros are _____ the number.	Zeros are _____ the number.
Exponent is _____.	Exponent is _____.
Example: 90,000,000,000 = _____.	Example: 0.0000000001 = _____

Explain what a scientist should do if some data from an experiment confirms a hypothesis and some data does not. Could the scientist ignore the data that didn't fit the hypothesis? Why or why not?
