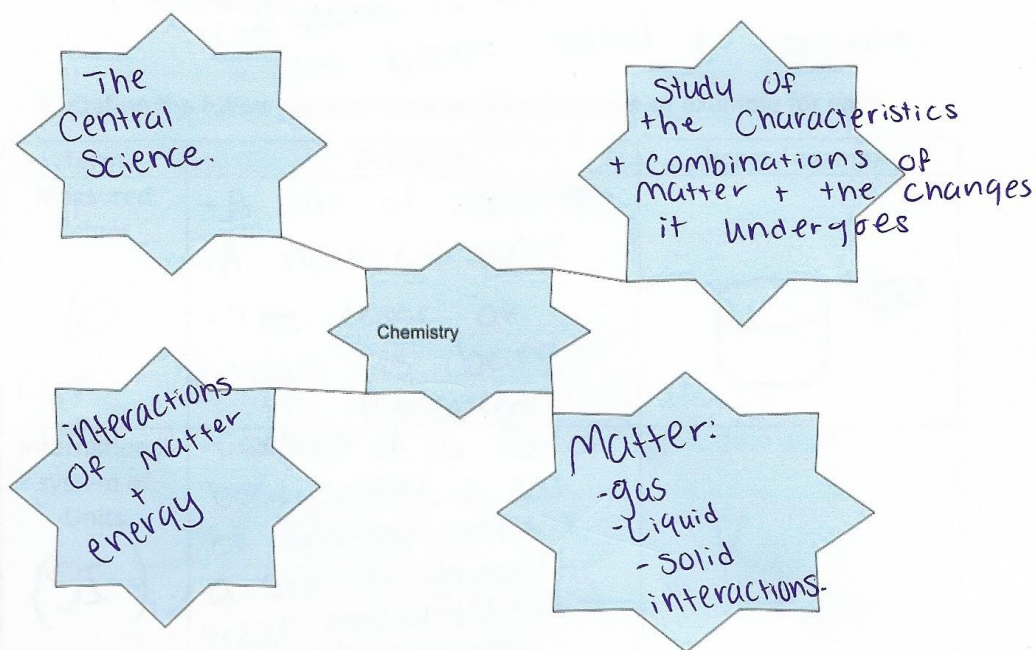


Chapters 1 and 2: Chem 1407 SI

1. Complete the word bubble below:




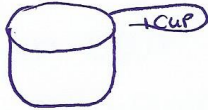

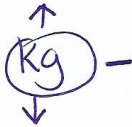
2. Name and describe the steps to the Scientific Method:

- a. Observation: witness + recording of a process
 - reproducibility: must occur more than once.
- b. Scientific or natural law: A generalized statement about observations
 - does not say why.
- c. Hypothesis:
 - is falsifiable, A tentative explanation for observations that fit all facts available.
- d. Experimentation:
 - Hypothesis are tested w/ experiments
 - results prove or disprove Hypotheses.

e. Peer Review:
 • Hypotheses is challenged by other scientists.

f. Theory:
 • Can evolve, is est. in scientific community.
 • Have been tested + proven.

3. Define the following terms and provide an image or example for each.

Term	Definition	Image/ example
Measured Values 	<ul style="list-style-type: none"> • A unit of measurement • A numerical value • The name of what is being measured 	
International system of Units (SI)	<ul style="list-style-type: none"> • Consists of a set of base units, a set of derived units + a set of decimal-based multipliers used as prefixes. 	Kg
Base Units 	<ul style="list-style-type: none"> • The building blocks of SI. All other units of measurement can be derived from these base units. 	
Derived Units:	<ul style="list-style-type: none"> • Formed from other units. Are formed by powers, products, or quotients of the base units 	CM

Conversion factors:	• Are ratios of 2 equivalent quantities using different units	2.5cm = 1in
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4. What are the rules for converting units?

a. Always write every # w/ it's associated unit.

$$\frac{M}{V}$$

$$\frac{g}{cm^3}$$

b. Always include units in your calculations, dividing, + multiplying them just like they were numbers themselves.

5. Name the SI units for:

- a. Volume = cm³ (What do we use instead) Liters.
- b. Mass = kg
- c. Length = m
- d. Time = s

6. How do you set up a conversion factor?

$$\text{given} \times \frac{\text{desired unit}}{\text{given unit}}$$

$$\frac{\text{given}}{\text{given}} \Bigg| \frac{\text{desired}}{\text{given}}$$