

UNIT 1 REVIEW

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- 1) AN **OBSERVATION** always involves the use of the **senses**. **Instruments** may extend the senses.
- 2) **AN INFERENCE** is an **interpretation** or conclusion based on observations. Inferences usually involve what happened in the past. Any statement about the future **MUST** be an inference.
- 3) **CLASSIFICATION** is the grouping of items based on common characteristics. We classify things to make them easier to study and to understand.
- 4) **MEASUREMENT**:
 - A) **Mass**: The amount of matter in an object. The basic unit of mass is the gram.
 - B) **Volume**: The amount of space occupied by an object. The basis units of volume are the **cm³** and **ml**. They are equal.
- 5) **DENSITY**: Amount of **mass per unit of volume**. You **MUST** be able to solve for any value in the density formula.
 - a) Expressed in **g/cm³** or **g/ml**
 - b) Cut object into many pieces and the density of each piece remains the same.
 - c) Compress an object (reduce its volume) and the density increases.
 - d) When an object expands (increases in volume) its density decreases.
 - e) **The density of water is 1 g/cm³ (1 g/ml)**
 - f) Water reaches maximum density at 4°C (really 3.98°C)
- 6) **You MUST be able to calculate percent error (deviation)** using the formula.
- 7) **PHASES of MATTER**:
 - a) Solid (usually most dense)
 - b) Liquid
 - c) Gas or vapor (least dense)
- 8) **CHANGES are EVENTS** that occur (can be in) "**time and space**" (**frames of reference**).
 - a) **Rate** of change varies greatly. Some are fast (earthquakes). Some are slow (evolution).
 - b) Changes may be **cyclic**; repeating again and again. Cyclic changes like the phases of the moon are **predictable**.
 - 1) Predictions are most accurate when data is gathered over a long period of time.
 - c) Changes may be **non-cyclic**; these are **one time events** such as meteorite impacts which are usually not predictable.
 - d) All changes involve a **flow of energy**. **Energy is exchanged at an interface**. An **interface is a boundary** between two different materials (land and water, air and land).
 - c) The "**law of conservation of energy**" states that "Energy cannot be destroyed but one kind of energy can be changed into another."
Example: Sunlight falls on your face. It is changed from light to heat. You feel the warmth of the sun.
- 9) **RATE: the amount of change per unit of time. RATE = SLOPE = GRADIENT**. When you look at a graph, the steeper the line, the faster the rate.

IMPORTANT: These are just the things you need to know. By going over the regents questions in your review book you will see how these facts are used to solve problems. Go over every question. Ask me in class for help!