

Name _____

Hour _____

Chemistry Unit (Part 3) - Study Guide

Goal 1

Define 1 - 8.

1. Physical property – A physical property is a characteristic that describes matter while keeping the same identity.
2. Mass – the amount of matter in an object
3. Solubility - the ability for a substance to dissolve in water or another liquid. Ex: sugar
4. Conductivity – the ability to pass electricity or heat through it easily. Ex: metals, including copper
5. Elasticity - the ability to be stretched and return to original position. Ex: rubber band
6. Luster - – ability to shine or reflect light. Ex: water or glass
7. Magnetism - attractive force for some metals, especially iron. Ex: paper clip
8. Malleability – the ability to compress, smash, or dent, without breaking or cracking. Ex: a penny
9. List 4 physical properties of a paperclip.
 1. Conductive
 2. Malleable
 3. Has luster
 4. magnetic
 5. Insoluble
 6. Non-elastic
10. What is the boiling/condensation point of water in degrees Celsius & Fahrenheit?
100 degrees Celsius; 212 degrees Fahrenheit
11. What is the melting/freezing point of water in degrees Celsius & Fahrenheit?
0 degrees Celsius; 32 degrees Fahrenheit
12. Chemical property - A chemical property is a characteristic that describes how matter changes into a new substance.

Goal 4

20. Angela wanted to see if the mass of an apple changes after she cuts it in half.

- a. What happens to the mass? **It stays the same**
- b. Why does this happen? **The Law of conservation of Mass says that the mass stays the same during a physical change.**

21. Paul made cookies. He started with 22 g of cookie mix and 21 g of eggs and 11 g of oil. He mixed all of the ingredients together – no other ingredients were added or lost. He then baked them for 45 minutes in a 375°F oven.

- a. What was the beginning mass of all the ingredients? **___54 grams_____**
- b. What should be the ending mass? **___54 grams_____**
- c. Is this an example of a physical or chemical change and explain how you know.

Chemical change because you have a new substance and it cannot be reversed.

22. Define the Law of Conservation of Mass – both parts.

- A. **Mass stays the same during a physical change.**
- B. **Mass stays the same during a chemical change in a closed system.**
- C. **Mass is neither created nor destroyed.**
- D. **The number of atoms stays the same before and after a change.**

23. Why is it necessary to have a closed system during a physical and chemical change? **Some gases could escape in a chemical change if you do not have a closed system.**

Goal 5

Define each term. Give an example of each and explain why it is an example.

24. **Exothermic process** – A process where energy is exiting a substance.

Example: Water freezing

Why: heat is exiting the water allowing it to become cold enough to freeze.

25. **Endothermic process** – A process where energy is entering a substance.

Example: Water/ice melting

Why: Heat is entering the ice allowing it to get warm enough to melt.

26. **Exothermic reaction** – A reaction that releases energy. (The temperature will rise.)

Example: Steel wool and vinegar

Why: The temperature went up

27. Endothermic reaction – A reaction where energy is being absorbed. (The temperature will drop.)

Example: Vinegar and baking soda

Why: because the temperature dropped.