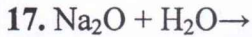


1. Putting sand and salt together makes
 - A. A compound
 - B. A mixture
 - C. An Element
 - D. A solution
2. Which of the following is NOT made of matter?
 - A. Air in the atmosphere
 - B. Gases on Jupiter
 - C. The planet Earth
 - D. Radiation from the Sun
3. Which type of matter consists of two or more pure substances that are not chemically combined?
 - A. Elements
 - B. Compounds
 - C. Mixtures
 - D. Atoms
4. A metal toy dump truck is left outside. After a few months, the truck has rusted. Rusting is evidence of a
 - A. Physical change
 - B. Physical property
 - C. Chemical change
 - D. Chemical property
5. Heat can cause ice to change to a liquid by
 - A. Filling the spaces between molecules
 - B. Causing molecules to move faster and faster
 - C. Increasing distance between electrons within molecules
 - D. Increasing the attraction between molecules
6. Any changes in size, shape, or state where the identity of the matter stays the same is a _____ change.
 - A. Chemical
 - B. Physical
 - C. Seasonal
 - D. Element
7. Which quantity is measured with a balance scale?
 - A. Volume
 - B. Temperature
 - C. Mass
 - D. Density
8. What happens during a physical change?
 - A. New substances are formed
 - B. The identity of the substance is changed
 - C. A substance may look different but not lose its identity
 - D. Two elements are bonded to one another
9. Information gathered using the senses is called a(n)
 - A. Hypothesis
 - B. Observation
 - C. Conclusion
 - D. Fact
10. Which chemical equation illustrates the law of conservation of matter?
 - A. $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
 - B. $2\text{Na} + \text{Cl}_2 \rightarrow 2 \text{NaCl}$
 - C. $\text{FeS} + 2\text{HCl} \rightarrow \text{FeCl} + 2\text{H}_2\text{S}$
 - D. $2 \text{Cu} + \text{O}_2 \rightarrow 4\text{CuO}$
11. The center, or core, of an atom is called
 - A. Proton
 - B. Electron cloud
 - C. Nucleus
 - D. Electron
12. When sugar seems to disappear in water, it _____
 - A. Condenses
 - B. Conducts
 - C. Dissolves
 - D. Evaporates
13. Which is a chemical property of matter?
 - A. Density
 - B. Magnetism
 - C. Combustibility
 - D. Color
14. Which of the following is an element?
 - A. Air
 - B. Salt
 - C. Water
 - D. Oxygen
15. The changing of a substance from a gas to liquid is called
 - A. Freezing
 - B. Melting
 - C. Boiling
 - D. Condensation

16. Which elements are represented by the symbols in the following formula? CaCO_3
- Sodium, carbon, chlorine
 - Oxygen, carbon, copper
 - Calcium, oxygen, carbon
 - Chlorine, oxygen



The reactants involved in a chemical reaction are shown. How many O atoms must be present in the product that forms from the reaction?

- 1
- 2
- 3
- 4

Use the table below to answer question #18.

| Substance | Melting Point ($^{\circ}\text{C}$) |
|-----------|--------------------------------------|
| beeswax | 62 |
| gold | 1,063 |
| lead | 327 |
| oxygen | -218 |

18. Based on the melting points shown in the table, which material would still be a solid at 400°C ?
- beeswax
 - gold
 - lead
 - oxygen

19. What will happen if you mix vinegar and baking soda?

- It will explode.
- Nothing will happen.
- It will bubble up rapidly.
- It will turn bright red.

20. The amount of matter in an object is called its

- weight.
- gravity.
- mass.
- force.

21. What is the symbol for Chlorine?

- C
- Ch
- Cl
- Cr

22. Lucy noticed that her coin collection had begun to tarnish. Some of the metal in the coins had begun to change color. The formation of tarnish is **most** similar to which of the following changes?

- shredding a piece of paper into hundreds of tiny strips
- dropping a dinner plate on the floor
- melting ice cubes in a glass of juice
- burning a piece of paper to ashes in a fireplace

23. The solid, liquid, and gaseous states of water differ from each other in

- the mass of the individual atoms.
- the size of the individual atoms.
- the net electrical charge of the individual molecules.
- the average speed of movement of the individual molecules.

24. This material has a definite volume but a changing shape

- solid
- liquid
- gas
- plasma

25. Which formulas represent compounds?

- O_2 , H_2O_2
- CO_2 , H_2O
- H_2 , CO_2
- H_2 , O_2

26. When dry ice changes phases, it goes from a solid to a gas. This is called

- sublimation
- evaporation
- condensation
- melting

27. Which does NOT suggest that a chemical change is likely to have occurred?

- development of a gas
- formation of rust
- change in state of matter
- change in chemical formula

28. The observation that ice cubes float in a glass of water can be explained by the fact that

- A. most substances have less energy as solids than as liquids.
- B. most substances are less dense as solids than as liquids.
- C. ice has less energy than liquid water.
- D. ice is less dense than liquid water.

29. Moisture that collects on the outside of a cold glass results from the process of

- A. evaporation.
- B. condensation.
- C. sublimation.
- D. vaporization.

30. All elements are composed of extremely small particles called _____.

- a. compounds
- b. cells
- c. atoms
- d. molecules

31. Matter is not created or destroyed, but can change form. What is this called?

- A. Atomic Theory
- B. Law of Conservation of Energy
- C. Matter Creation Theory
- D. Law of Conservation of Matter

32. Use the table below to answer this question.

| 1981 Pennies | | 1985 Pennies | |
|--------------|---------------------------|--------------|---------------------------|
| Mass (g) | Volume (cm ³) | Mass (g) | Volume (cm ³) |
| 3.5 | 0.9 | 2.5 | 0.9 |

In 1982, the composition of US pennies was changed. According to the information in the table, 1985 pennies

- A. are more dense than 1981 pennies.
- B. are less dense than 1981 pennies.
- C. are equal in density to 1981 pennies.
- D. cannot be compared to 1981 pennies.

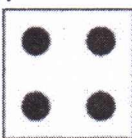
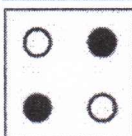
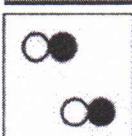
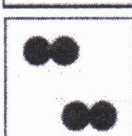
33. A different chemical substance is formed when

- A. a piece of cloth is cut.
- B. cup breaks.
- C. candle burns.
- D. piece of chalk breaks.

34. If 1 kg of the compound toluene melts at -95°C , then 500 g of toluene will

- A. melt at -47.5°C .
- B. melt at -95°C .
- C. boil at 95°C .
- D. boil at 47.5°C .

35. If different kinds of atoms are represented by different colored dots, which picture below represents a mixture?

- a. 
- b. 
- c. 
- d. 

36. Which of the following is NOT an example of a pure substance?

- A. salt water
- B. carbon dioxide
- C. potassium
- D. sodium chloride

37. Which state of matter occurs as temperature rises and electrons are removed from their atoms?

- A. Plasma
- B. Gas
- C. Liquid
- D. Solid

38. Which of the following is an example of a chemical change?

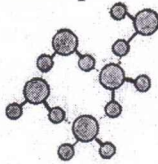
- A. ice cream melting
- B. fence rusting
- C. water condensation
- D. mixing salt and water

39. Which of the following is an example of a mixture?

- A. copper wire
- B. carbon dioxide
- C. table salt
- D. lemonade

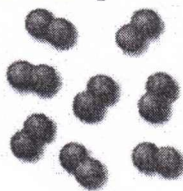
40. Which instruments would you use to determine the density of a rock?
- a triple-beam balance and a spring scale
 - a spring scale and a graduated cylinder
 - a triple-beam balance and a spring scale
 - a triple-beam balance and a graduated cylinder

41. The picture is an example of a(n) _____.



- Element
- Compound
- Mixture of Elements
- Mixture of Compounds

42. The picture is an example of a(n) _____.



- Element
- Compound
- Mixture of Elements
- Mixture of Compounds

43. Which metric system unit of measurement would be best to use when measuring the distance between Homer and Atlanta?

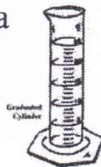
- yards
- miles
- meters
- kilometers

44. Salt (NaCl) is a common substance. Salt is which of these?

- atom
- element
- compound
- mixture

45. The diagram shows a common laboratory tool. This tool can be used to measure a

- characteristic property
- chemical property
- physical property
- basic property



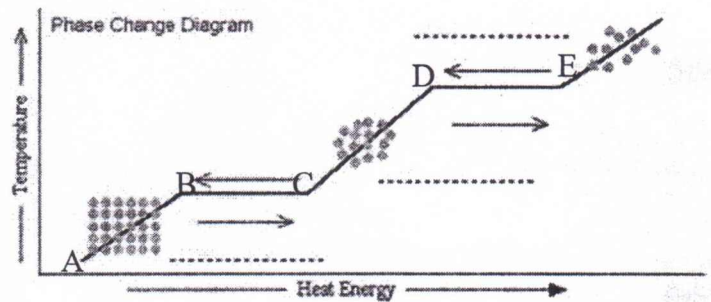
46. A factor that changes in an experiment is called

- observation
- hypothesis
- control
- variable

47. The group that is used to show that the results of an experiment is really due to the condition being tested is called

- factor
- hypothesis
- control
- variable

Use the following diagram to answer questions # 48-50



48. When energy is added, what change takes place from Point B to Point C?

- the substance changes from a gas to a solid
- the substance melts from a solid to a liquid
- no change takes place
- the substance evaporates from a liquid to a solid

49. With each passing minute, _____ is added to the substance.

- vapor
- heat
- nothing
- time

50. At point E and beyond, the particles are

- moving faster and farther apart
- moving at a steady rate
- not moving
- moving slower and are closer together