InterActions Unit 5 Sample Quiz KEY

See the Scientists' Consensus Sheets for assistance.

1. When you increase the magnification of a microscope to look at a leaf, you see an *increase* in

    a. the amount of the leaf you see.

    b. the details seen in the image of the leaf.

    c. the size of the image of the leaf.

    d. None of these increases.

    When the magnification increases the amount of detail you see increases. To answer this question you need to know how magnification affects what you observe in a microscope.

2. Which of the following is a chemical property of a substance?

    a. color

    b. texture

    c. flammable (burns)

    d. shape

    A chemical property is a description or measurement of how a substance interacts during a chemical interaction where a new substance is formed during the interaction. To answer this question you need to know what a chemical property is.

3. Which list contains *only* physical interactions

    a. heating, rusting, burning

    b. tearing, sawing, boiling

    c. digesting, exploding, sawing

    d. stretching, bending, cooking

    During a physical interaction physical properties may change but no new substances are formed. To answer this question you need to know what a physical property is.

4. During a chemical interaction

    a. a new substance with different properties may appear

    b. a substance may disappear

    c. a new substance in a different phase may appear (at room temperature)

    d. All of the above

    During a chemical interaction a new substance is formed and a substance may disappear. To answer this question you need to know what a chemical interaction is.

5. Which property is the most useful in identifying a certain chemical?

    a. mass.

    b. density.

    c. color.

    d. flexibility.

    Characteristic properties such as density, melting point, and boiling point are more useful in determining a substance than properties such as mass and color. To answer this question you need to understand that a characteristic property is a unique property of the substance.

6. Which of the following is NOT a mixture?

    a. Muddy water.

    b. Tabasco sauce.

    c. Pure water.

    d. Salt water.

    A mixture is a combination of substances that can be separated by a physical interaction. Water is a compound of hydrogen and oxygen and cannot be separated by a physical interaction. To answer this question you need to know what a mixture is.

7. You can separate a solution by

    a. interactions that cause a phase change.

    b. a chemical interaction.

    c. using filter paper.

    d. There is no way to separate a solution.

    A solution is a mixture where the different substances can only be separated by physical interactions that result in a phase change. To answer this question you need to know what a solution is.

8. Which of the following is not a suspension?

    a. granola

    b. brass

    c. chocolate chip cookie

    d. river water

    A suspension has distinct pieces of different substances that you can see with your eyes or a light microscope. To answer this question you need to know what a suspension is.

9. When a white substance is heated, it undergoes a phase change but no new chemicals are formed and it does not separate into distinct substances. However, when this powder is mixed with water it produces three new substances. The white solid is a(n)

    a. solution

    b. suspension

    c. compound

    d. element

    A compound is a substance made of two or more elements that cannot be separated by a physical interaction To answer this question you need to know what a compound is.

10. When a green single substance is heated it interacts with the oxygen in the air and produces two new substances. The green substance is a(n)

    a. solution

    b. suspension

    c. compound

    d. element

    A compound is a substance made of two or more elements that cannot be separated by a physical interaction To answer this question you need to know what a compound is.

11. A substance does not break down during phase changes or chemical interactions. This substance is a(n)

    a. solution

    b. suspension

    c. compound

    d. element

    An element is a substance that cannot be broken down by physical or chemical interactions. To answer this question you need to know what a compound is.

12. Noble gases

    a. are chemically reactive and unstable.

    b. are poor conductors and chemically reactive.

    c. are poor conductors and have low densities.

    d. are good conductors and have boiling points below room temperature.

    Noble gases are not chemically reactive. They are stable, have boiling points well below room temperature, and are good conductors of heat energy and electrical current. To answer this question you need to know properties of noble gases.

13. Metals are

a. are good conductors and have high melting temperatures.

b. shiny when polished and poor conductors.

c. poor conductors and have high melting temperatures.

d. have low densities and are good conductors.

Metals are shiny when polished, tend to be solids at room temperature, are good conductors of heat energy and electric current, have high melting points, and high densities. To answer this question you need to know properties of metals.

14. Metalloids are

a. non-shiny and usually brittle.

b. Non-shiny and poor conductors.

c. Shiny and good conductors.

d. Shiny and brittle

Metalloids have some properties of metals and non-metals. They are shiny, usually brittle or powdery, and poor conductors of electric current. To answer this question you need to know properties of metalloids.

15. The periodic table organizes elements

a. into families with similar properties.

b. alphabetically.

c. according to color.

d. according to their phase (gas, solid, liquid) at room temperature.

To answer this question you need to know how the periodic table organizes the elements.

Learning About Activities

Activity 12

16. In the pH scale, values above 7 are

    a. bases.

    b. acids.

    c. neutral.

    d. None of the above.

    In the pH scale values from 0-7 are acids, values of 7 are neutral, and values from 7-14 are bases. To answer this question you need to know the pH scale.

17. Drain opener is

    a. a base.

    b. an acid.

    c. a neutral substance.

    d. None of the above.

    Most cleansers are bases. To answer this question you need to know that drain opener is a base.

Activity 13

18. Group 17 of the periodic table are called halogens. Halogens react well with

    a. gases.

    b. non-metals.

    c. metals.

    d. water.

    Halogens are nonmetals that are very reactive. To answer this question you need to know the properties of the groups of the periodic table.