

Prep for Basic Chemistry: Competency 4 Practice **Key**

- Matter that has neither a defined shape nor volume is a _____.
 A gas
 B solid
 C liquid
- What is the definition of matter?
 A The measure of the weight of an object in three-dimensional space.
 B The smallest unit of an element.
 C **Anything that has mass and occupies space.**
 D Measurement of Earth's gravitational force on a mass.
- Which of the following observations in our daily life is an example of a physical change?
 A When milk is not refrigerated, it becomes sour.
 B **When sugar is mixed with water, it dissolves.**
 C Vinegar causes baking soda to fizz.
 D **When water is boiled, it vaporizes.**
- Both liquids and gases have permanent shapes.
 A True
 B **False**
- Gases have neither a defined volume nor shape.
 A False
 B **True**
- Solids have a defined volume and shape.
 A **True**
 B False
- Which of the following is a physical property of the acid in vinegar?
 A **its clear color**
 B its ability to be neutralized by sodium hydroxide
 C **its ability to dissolve in water**
 D **its ability to fit into whatever it's poured into**
- A pure substance is analyzed and found to contain only carbon. This substance is most likely a(n) _____.
 A mixture
 B **element**
 C compound
- atom
 A **the smallest unit of an element with the chemical properties of the element**
 B a substance that is made up of two or more elements chemically joined together
 C always has the same number of protons and neutrons
 D a chemical substance formed as a result of a chemical reaction
- compound
A. A physical property of matter that can be produced by atoms.
B. **A substance that is made up of two or more elements chemically joined together.**

11. What is an element?

- A A pure substance
- B Made of only one kind of atom
- C None of the above
- D **Both A and B**

12. What is a molecule?

- A **A group of different kinds of atoms linked together**
- B A group of the same kind of atoms linked together
- C A group of isotopes linked together

13. Write the name or symbol:

- a. Au gold
- b. Iron Fe
- c. Lead Pb
- d. Hg mercury
- e. K potassium
- f. Ag silver
- g. Sodium Na
- h. Sn tin
- i. Calcium Ca