Name: _____ Date: _____ Period: _____

8th grade science study guide Chapter 6 - Matter and Atoms

1. A _____ is formed when two or more substances are combined so each substance can be separated by physical means. (Answer: mixture)

2. Gold and silver are examples of _____. (Answer: substances)

3. Which of the following can atoms have different numbers of

- neutrons
- protons
- electrons
- all of the above (Answer: all of the above)

4. Electrons are located and travel _____ of the nucleus of an atom. (Answer: outside)

5. In the nucleus of an atom there are _____ (+ charges) and _____ (neutral charges). (Answer: protons, neutrons)

6. Small particles that are the building blocks of all matter are called ___ ____ ____ ____ ____. (Answer: atoms)

7. Atomic number is equal to the number of _____ in the nucleus of an atom. (Answer: protons)

8. Circle which one of the following is NOT a molecule. (Answer: silver)

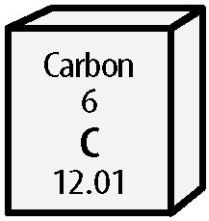
- silver
- carbon dioxide
- water
- sugar

9. To separate a heterogeneous mixture, you can use a strainer, magnet, or scoop NOT a stove.

10. A _____ ion (anion) happens when an atom has more electrons than protons. (Answer: negative)

11. A _____ ion (cation) happens when an atom has more protons than electrons. (Answer: positive)

12. A _____ atom occurs when the number of electrons (- charges) equals that of the number of protons (+ charges). (Answer: neutral)

13. 

a. The element's name is _____. (Answer: Carbon)
b. The element's symbol is _____. (Answer: C)
c. The atomic mass is _____. (Answer: 12.01)
d. The atomic number is _____. (Answer: 6)

14. Which one of the following could possibly be an isotope of Mg-24 because it has the same number of protons but a different number of neutrons? (Answer: Mg-25)

- Mg-16
- Mg-25
- Mg-12
- Mg-20

15. Almost all of an atom's mass is found in its _____. (Answer: nucleus) This is where protons and neutrons are found.

16. The two types of mixtures are _____ and _____. Each type consists of two or more substances. (Answer: homogeneous and heterogeneous)

17. Pure substances can be compounds or _____. (Answer: elements)