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)