

Name _____ Date _____ Hour _____

Physical Science

Guided Reading

Section 16-2

Masses of Atoms

1. Define the following vocabulary

a. Mass

b. Atomic number

c. Mass number

2. Why does the nucleus contain most of the atom's mass?

3. What is an element made up of?

4. What is atomic number?

5. Examine table 4, what is the atomic number for the follow elements

a. Sodium

b. Carbon

c. Oxygen

6. Examine the period table in the back cover of your text book. Determine the number of protons of each of the following elements. (Remember atomic number = # of protons)

a. Hydrogen

d. Aluminum

c. Silver

b. Lithium

e. Gold

7. Use the periodic table in the back cover of your text book to identify the element names given the following information

a. 17 protons in the nucleus

c. 93 protons in the nucleus

b. Atomic number 15

d. Atomic number 28

8. How do we calculate the mass number of an element?

9. What can we calculate if we know the mass number and the number of protons in the nucleus? How do we do this calculation?

10. Practice, calculate the number of neutrons in the following elements, using their mass number and atomic number.

a. Aluminum, mass number is 27, atomic number is 13, the number of neutrons is _____.

b. Mercury, the mass number is 201, atomic number is 80, the number of neutrons is _____.

11. What are isotopes?

12. How do scientists identify isotopes?

Section Review

13. All atoms are **neutral**, the total **number of protons must equal the number of electrons**. How many electrons are in the following elements?

a. Copper

b. Iron

c. Chlorine