Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Chemistry Test 1 Study Guide**Complete on a **separate** sheet of paper!!

**Atomic Structure**1. What are the 3 subatomic particles that make up an atom and what is the charge of each?

2. The **atomic mass** of an atom is made up of which 2 subatomic particles added together?

3. Where would you find the protons and neutrons in an atom? Electrons?

4. What does the atomic number tell you about an atom? If an atom is **neutral**, the number of \_\_\_\_\_\_\_\_\_ is equal to the number of \_\_\_\_\_\_\_\_\_\_.

5. What happens when the number of electrons change in an atom?

6. Phosphorus-31 & Phosphorus-32 are both the element Phosphorus (P). Phosphorus-31 has a mass of 31. Phosphorus-32 has a mass of 32. What is the difference between these two atoms of Phosphorus?

7. Isotopes are versions of the same element with a different number of \_\_\_\_\_\_\_\_\_\_\_\_.

8. Start with the element Oxygen and add a proton to it, which element would it become?

9. If a Calcium atom loses 2 electrons then it will become an \_\_\_\_\_\_\_ with a charge of \_\_\_\_\_.

10. If Sulfur gains 3 electrons then it will become a negative \_\_\_\_ with \_\_\_\_ total electrons.

11. Krypton has the atomic number 36 and an atomic mass of 85. Determine the number of protons, neutrons, and electrons.

12. Draw the Bohr diagram for Aluminum.

13. Draw the Lewis Dot diagrams for Hydrogen (H) , Sulfur (S), and Krypton (K).

**Elements, Compounds, and Mixtures**

14. What is the difference between an element, compound, and mixture?

15. How do you separate a compound versus a mixture?

**Periodic Table**16. What are the 3 classes of elements on the Periodic Table?

17. Where are the MOST reactive METALS found on the periodic table?

18. Where are the most reactive NONMETALS found on the periodic table?

19. What is a metalloid (vocabulary)?

20. What are common properties of metals (vocabulary)?

21. Where would a scientist most likely place a new element that is man made and radioactive on the periodic table?

22. How many valence electrons does Sodium (Na – element 11) have? How do you know?

23. What is a horizontal row on the Periodic Table called? What is a vertical column on the Periodic Table called?

24. Uranium has a mass of 235. It takes 704 million years for half a sample of

Uranium to lose enough protons (decay) to become Lead (PB – element 82).

a) How many neutrons are in an atom of Uranium-235?

b) How many protons must is lose to become lead?

25. Why don’t the Noble Gases want to react with anyone?

26. Which **group** of metals is the most reactive? Explain why they are so reactive.

**Resources to help you study**

Atomic Basics WS

**Atomic Structure PowerPoint** and notes

**Elements, Mixtures, and Solutions PowerPoin**t and notes

**Periodic Table Powerpoint**

Trends of the periodic table notes

**Bonding Powerpoint** and notes

Periodic Table WS

Vocabulary (quizlet)