Physical Science Chapter 4 Notes Outline

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Atomic Structure – Pages 98-120**

4.1 Studying Atoms

Ancient Greek Models of Atoms-

Dalton’s Atomic Theory-

 Evidence for Atoms-

 Dalton’s Theory-

Thomson’s Model of the Atom-

 Thompson’s Experiments-

 Evidence for Subatomic particles-

 Thompson’s Model-

Rutherford’s Atomic Theory-

 Rutherford’s Hypothesis-

 The Gold Foil Experiment-

 Discovery of the nucleus-

 **Nucleus-**

**SECTION QUESTIONS**

**1.) What theory did Dalton propose about the structure of matter?**

**2.) What evidence did J.J. Thompson provide about the structure of an atom?**

**3.) What did Rutherford discover about the structure of an atom?**

4.2 The Structure of an Atom

Properties of Subatomic Particles-

 **Protons-**

 **Electrons-**

 **Neutrons-**

Comparing Subatomic Particles-

Atomic Number and Mass Number-

**Atomic Number-**

**Mass Number-**

**Isotopes-**

 **SECTION QUESTIONS**

**1.) How are the isotopes of an element different from one another?**

**2.) How can atoms be neutral is they contain charged particles?**

4.3 Modern Atomic Theory

Bohr’s Model of the Atom

 **Energy Levels-**

Evidence for Energy Levels-

Electron Cloud Model

 **Electron Cloud-**

Atomic Orbitals-

 **Orbital-**

Electron Configurations-

**Electron Configurations-**

 **Ground State-**

 **SECTION QUESTIONS**

**1.) What model do scientists use to describe how electrons move around the nucleus?**

**2.) What does an electron cloud represent?**

**3.) Was Rutherford’s model of an atom incorrect or incomplete? Explain.**