

OBJWS ATOM

Chem IH

Remember to define all terms (or, draw a picture representing the vocabulary word)

A. Term: Atom

1. Who discovered the atomic theory?
2. Name the four ideas used in the atomic theory.
3. According to this theory, an element is a large collection of _____ and a compound is a large collection of _____.

B. What is a subatomic particle?

1. List the three subatomic particles of an atom and give a description of each.
2. What is a cathode ray?
3. What did J.J. Thomson find out about cathode rays through his experiments?
4. What subatomic particle did James Chadwick discover?

C. Term: nucleus

1. Describe the experiment of Ernest Rutherford. What led him to the discovery of the nucleus?
2. The nucleus has a positive charge and the electrons have a _____ charge. Which subatomic particle occupies the most volume in an atom?
3. Does the nucleus have a large density?

D. Scientists have discovered new subatomic particles that are not stable. What causes them to be unstable?

E. Term: atomic number

Write the atomic number equation.

F. mass number, atomic mass unit, atomic mass

1. The atomic number of Zr is 40. How many electrons, protons, and neutrons does it have?
2. How do you calculate the average atomic mass of an element?

G. Term: isotope

1. An element has 10 protons and 10 neutrons, which element is it?
2. What has an atomic mass of 80 and the atomic number is 35? What is the number of electrons, protons, and neutrons?