Ch. 2 Atoms, Molecules, & Ions

Define the Law of Conservation of Mass?

List the Postulates of Dalton's Atomic Theory. Recognize which ones have been disproven.

What did the cathode-ray experiment discover?

What experiment discovered the nucleus?

Compare the subatomic particles of an atom.

| **Particle** | **Charge** | Location |
|---|---|---|
| | | |
| | | |
| | | |

Label all parts of the element.

$$^{35}_{15}P$$

What is an isotope?

Chlorine has two common isotopes. Find the number of protons, neutrons, and electrons.

| Symbol | Protons | Neutrons | Electrons |
|---|---|---|---|
| $^{35}$Cl | | | |
| $^{37}$Cl | | | |

What is an ion? What is a cation? What is an anion?

An element X has two naturally occurring isotopes:

- Isotope X-50 with an atomic mass of 49.95 amu and an abundance of 75%
- Isotope X-52 with an atomic mass of 51.94 amu and an abundance of 25%

Calculate the **average atomic weight** of element X.

The rows on the periodic table are called _____?

The columns on the periodic table are called _____?

Elements in the same group have similar _____ properties.

List all the diatomic elements:

What type of formula gives the exact number of atoms of each element in a compound?

What type of formula gives the lowest whole-number ratio of atoms of each element in a compound?

What type of bonding occurs between a metal and a non-metal?

What type of bonding occurs between a metal and polyatomic ion?

What type of bonding occurs between two non-metals?