

Atomic Structure Worksheet

Name: _____

Grade: _____

Questions:

1. I have 3 protons, 4 neutrons, and 3 electrons. What element am I?
2. My atomic number is 2, and I'm the second lightest element. I'm often used in balloons. Who am I?
3. I have 17 protons and 18 electrons. What type of ion am I, and what element do I belong to?
4. My atomic mass is approximately 23, and I have 11 protons. What element am I?
5. I am a noble gas with 8 electrons in my outer shell and an atomic number of 10. Who am I?
6. I'm an isotope with 6 protons and 7 neutrons. What element and isotope am I?

Answer Key

1. Lithium (Li)

- Atomic number = 3 (3 protons)
- Neutrons = 4
- Electrons = 3 → Neutral atom

2. Helium (He)

- Atomic number = 2
- Second lightest element
- Inert gas used in balloons

3. Chlorine Ion (Cl⁻)

- 17 protons, 18 electrons = Negative charge
- Element = Chlorine
- Ion = Cl⁻ (gained 1 electron)

4. Sodium (Na)

- Atomic number = 11
- Mass ≈ 23
- 11 protons = Sodium

5. Neon (Ne)

- Atomic number = 10
- Full outer shell = Noble gas
- 8 valence electrons

6. Carbon-13 (C-13)

- 6 protons = Carbon
- 7 neutrons = Isotope = Carbon-13