

WS: Atomic Structure

First /Last Name: _____

1. What are the three particles that make up an atom? **protons, neutrons, electrons**

Where is each found? **Protons and neutrons are located in the nucleus at the center of the atom. Electrons are located outside the nucleus.**

2. Which of the constituent particles of an atom are involved in chemical reactions? **Electrons are involved in chemical reactions, protons and neutrons are not.**

3. What are isotopes? **Isotopes are atoms that have the same number of protons but different numbers of neutrons.**

4. Distinguish between atomic number and mass number. **Atomic number refers to the number of protons in the nucleus. Mass number refers to the combined number of protons and neutrons in the nucleus. Since protons and neutrons are nucleons, the mass number could also be called the nucleon number.**

5. Why are the atomic masses, listed in the periodic table, not whole numbers?

The atomic masses are average atomic masses of all isotopes.

6. A neutral atom's atomic number is equal to _____.
the number of electrons

7. Please complete the following table:

Atomic Notation	Atomic Number	Mass Number	Number of p ⁺	Number of n ⁰	Number of e ⁻
¹⁸ ₈ O	8	18	8	10	8
¹²⁷ ₅₃ I	53	127	53	74	53

$^{79}_{35}\text{Br}$	35	79	35	$79-35=44$	35
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8. What does "X" represent in the following symbol? $^{80}_{35}\text{X}$

If Z= 35, the element is Br