

**Atoms and Isotopes Homework**

Show ALL work, when appropriate, for full credit.

**Atoms**

Sub-Atomic Particle	Location in Atom	Charge
	Orbits around nucleus	
Proton		
		Neutral

- How are elements arranged within the periodic table?
- The mass number is equal to the amount of \_\_\_\_\_ and neutrons.
- The atomic number is also equal to the amount of which sub atomic particle in an atom?
- How do you determine the number of neutrons in an atom?

**Isotopes**

- Consider the isotope,  ${}_{92}^{238}\text{U}$ 
  - How many protons does Uranium have?
  - How many neutrons does this particular Uranium isotope have?
- Consider the isotope,  ${}_{92}^{235}\text{U}$ 
  - How is this different from the Uranium isotope in #1?
  - How many protons does Uranium have?
  - How many neutrons does this Uranium isotope have?
- The atomic symbol for Potassium is K. An isotope of Potassium has 19 protons and 21 neutrons. What is this isotope's atomic number?
- Write the symbol for the Potassium isotope described in #3 showing both the atomic number and atomic mass (see questions 1 and 2 for what this should look like).
- Consider the isotope,  ${}_{6}^{14}\text{C}$ 
  - What is the atomic number of Carbon?
  - What is the atomic mass of this isotope?
  - How many neutrons does this isotope have?
  - How many protons does this isotope have?