

Chapter 4.3 Atomic structure and Isotope Practice

- Which subatomic particle identifies an atom as that of a particular element?
- Write the nuclear symbol and hyphen notation for an element with a mass number of 28 and atomic number of 14.
- Write the nuclear symbol and hyphen notation for an element with 26 protons and 30 neutrons.
- Use the periodic table and the information that follows to write the hyphen notation for each isotope described.
 - Atomic number = 2, mass number = 4
 - Atomic number = 8, mass number = 16
 - Atomic number = 19, mass number = 39
- What is the atomic number of an element that contains 12 protons, 12 electrons and 13 neutrons?
- Calculate the mass number of the potassium ion with 19 protons, 19 electrons and 20 neutrons:
- Calculate the mass number of the carbon atom containing 6 protons and 6 neutrons and 6 electrons.

Complete the following table

Particle	Location	Mass (amu)	Charge
Proton			
Electron			
Neutron			

Using your periodic table fill in the blanks on the following table

Element	Symbol	# p ⁺	# e ⁻	# n ⁰	Atomic #	Mass #	Isotope name
		25		30			
			11				
		35		45			
					39	89	
			33			75	
	Ac					227	
sodium							
	Ta						
					82		
		80					
			76				
		86				222	

Use your knowledge of atomic number and mass number to fill in the missing numbers

- Are the following elements isotopes of each other? Explain. Mg-24, Mg-25, Mg-26
- How many protons are found in an atom of each of the following?
 - boron _____
 - sulfur _____
 - strontium _____
 - gold _____
- Name the element which has:
 - 1 p⁺ _____
 - 4 n⁰, 3 p⁺, 3 e⁻ _____