

Name: _____

Date: _____

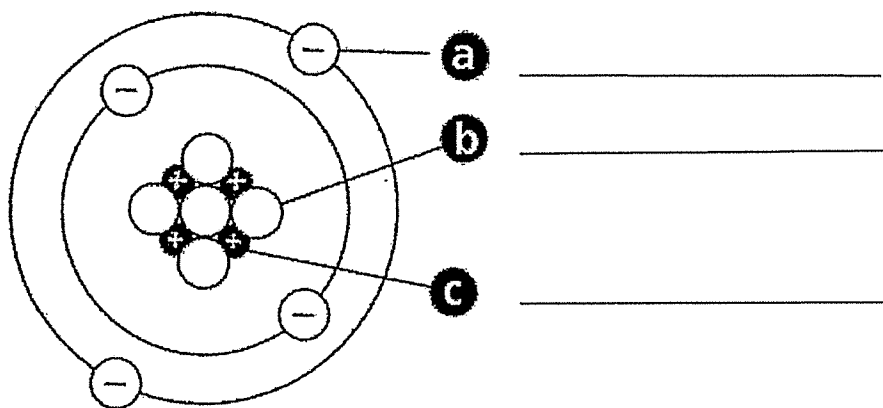
Foundations Physical Science

Atomic Structure

Complete the following table

Name of Element	Symbol of Element	Atomic Number	Mass Number	Number of Protons	Number of Neutrons	Number of electrons
Sodium	Na	11	23	11	12	11
Iron				26		
Aluminum						13
Carbon			12			
Hydrogen			1			
Phosphorus					16	
Arsenic						33
Neon				10		
Potassium	K					
Cobalt		27				
Iodine					74	
Lead			207			
Oxygen				8		
Zinc		30				
Chromium						24
Barium			137			
Silver					61	
Gold				79		

Label the parts of the atom.



Which atomic particle determines the identity of the atom? _____

What is the name of this atom? _____

What is the charge of this atom? _____

To what group does this atom belong? _____

What is the name of that group? _____

How do you know it belongs to that group? _____

To what period does this atom belong? _____

How does know it belongs to that period? _____

Draw an atom that belongs to period 3 group 1 and has 12 neutrons.

What is the name of the atom? _____

Is this atom a metal or nonmetal? _____

How many valence electrons does this atom have? _____

What do valence electrons and group number have in common?

How many of the following atomic particles does a neutral magnesium atom have?

- a. Protons
- b. Neutrons
- c. Electrons



- 2. Explain what would happen to the element if 4 protons were added:

- 3. Explain what would happen to the original element if 4 neutrons were added:

- 4. Explain what would happen to the original element if 2 electrons were lost:

- 5. How many electron shells would be used by magnesium? Draw a sketch, with one, two, or three shells, and include the appropriate number of electrons per shell.

Define the following terms

Atomic Number _____

Mass Number _____

Atomic Mass _____

Isotope _____

Ion _____

Isotope Name	Isotope Symbol	Number of...			Atomic Number	Mass Number
		Protons	Neutrons	Electrons		
Argon-40						
Argon-38						
Bismuth-209						
	${}_{26}^{57}\text{Fe}$					
	${}_{82}^{209}\text{Pb}$					
					16	34
		28	30			
			34	28		
		37	48	37		
Aluminum-27						
Manganese-55						
					20	40
		11	12	11		

SUMMARIZE:

How do you find the number of protons for any atom?

How do you find the number of neutrons for any atom?

How do you find the number of electrons for any atom?