

NAME: _____

ATOMIC STRUCTURE- Review

Use your periodic table to answer the following questions and fill out the following tables.

Subatomic Particle	Charge	Mass	Location	Formula
Proton (defines the type of atom)	+1	1	Nucleus	= atomic number
Neutron	0	1	Nucleus	= mass number – atomic number
Electron	-1	0	Electron clouds orbiting the nucleus	= atomic number – charge

$p^+ = e^-$ in a neutral atom

If there is a negative charge the ion has more electrons than protons (gained e^- to become an anion)

If there is a positive charge the ion has less electrons than protons (lost e^- to become a cation)

Atomic mass	28.0855
Symbol	Si
Atomic number	14
Name	Silicon

- Atomic number _____
- # of protons _____
- # of electrons _____
- # of neutrons in Silicon-30 _____
- Molar mass _____
- # valence electrons _____

	Protons	Neutrons	Electrons	Mass Number	Atomic Symbol
a. tin-120					
b. boron-11					
c. gallium-69					
d. sulfur-35					

	Protons	Electrons
a. Cl^{1-}		
b. Al^{3+}		
c. S^{2-}		
d. Li^{1+}		
e. O^{2-}		

Label periodic table with s, p, d, and f-block

The image shows a standard periodic table grid with 7 rows and 18 columns. The first two columns are on the left, and the last two are on the right. The middle six columns are separated from the right two by a gap, representing the d-block. Below the main grid, there are two rows of 14 boxes each, representing the f-block.

Define isotope:

Define and describe the periodic trend exhibited by each of the following.
Label these trends on periodic table on previous page.

Atomic radius:

Ionization energy:

Electronegativity:

Describe each of the following atomic models.

Thomson:

Rutherford:

Bohr:

Quantum-Mechanical: