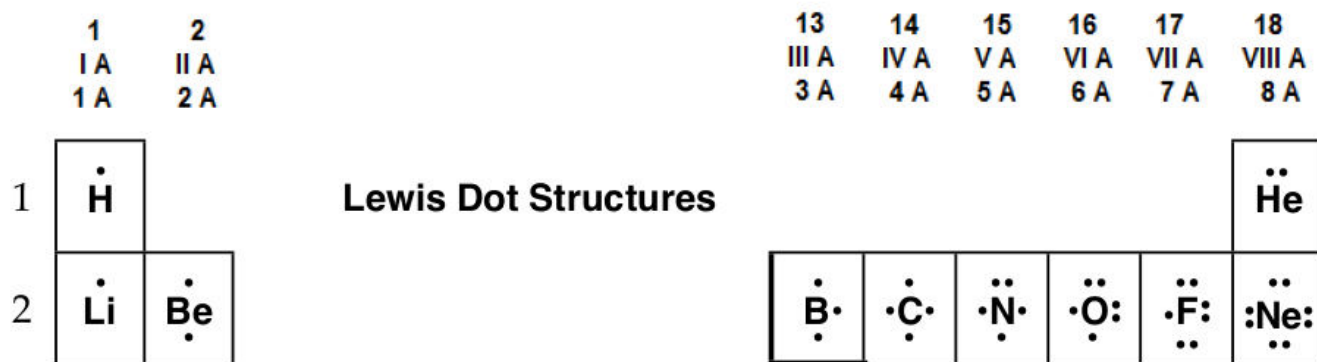


Lewis Dots & Valence Electrons

Gilbert Newton Lewis (October 23, 1875 – March 23, 1946) was an American physical chemist known for the discovery of the covalent bond and his concept of electron pairs; his Lewis dot structures and other contributions to valence bond theory have shaped modern theories of chemical bonding.

The Roman numerals followed by the letter A and the #’s followed by the letter A above each column on the periodic table show the number of valence electrons in each group. Lewis dots shows how these valence electrons spread out and pair up to create bonding pairs and lone pair electrons.



Draw Lewis dots for the following atoms:

Na

Ba

Al

P

Cl

Kr

S

K

Mg

Sn

Cs

Xe

Se

Br

Si

Critical Thinking Question: Why are the valence electrons for Helium paired but the valence electrons for Group 2 elements unpaired? _____
