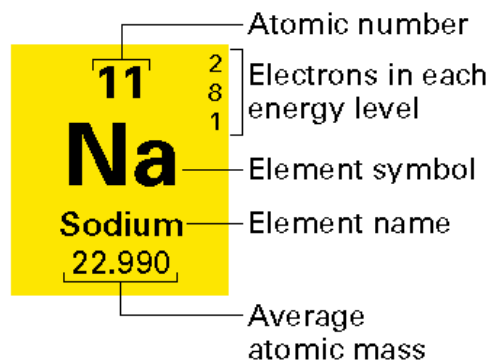


Chapter 6.2: Classifying the Elements

Squares in the Periodic Table

- all periodic tables provide some basic and similar information about the elements and their properties
- ALL periodic tables will have a legend that will define what information is presented



Electron Configurations in Groups

- elements can normally be sorted into groups based on their electron configurations

Noble Gases

- Group 8A, sometimes called inert gases because they are highly unreactive
- s and p orbitals are filled

Helium (He)	$1s^2$
Neon (Ne)	$1s^2 2s^2 2p^6$
Argon (Ar)	$1s^2 2s^2 2p^6 3s^2 3p^6$
Krypton (Kr)	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^6$

Representative Elements

- Groups 1A through 7A, p. 165
- display a wide variety of properties
- s and p orbitals are not filled

Lithium (Li)	$1s^2 2s^1$
Sodium (Na)	$1s^2 2s^2 2p^6 3s^1$
Potassium (K)	$1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$

Group
1A

Carbon (C)	$1s^2 2s^2 2p^2$
Silicon (Si)	$1s^2 2s^2 2p^6 3s^2 3p^2$
Germanium (Ge)	$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^2$

Group
4A

Transition Elements

- the Group B elements are separated from the Group A elements
- these elements are characterized by electron configurations that have electrons in d and f orbitals

Blocks of Elements

