

REVIEW

Chapter 5 : Lesson 5C

1. Silicon has the following Electron Configuration :



Explain the notation.

The _____ represent the Main Energy Levels and can range from _____ to _____.

The _____ represent the Sub-Levels for each Main Energy Level.

The _____ indicate the Number of Electrons in each Sub-Level.

2. Utilize the Aufbau Principle to find the Electron Configuration for Chlorine.

Chlorine's Atomic Number =

#Protons = #Electrons =

Chlorine is in Period _____ on the Periodic Table.

Chlorine has _____ Main Energy Levels.

Chlorine is in the _____ Block on the Periodic Table.

Using the Aufbau Principle (or "reading" the Periodic Table from left to right) :

n = 1	1s																					
n = 2		2s	2p																			
n = 3				3s	3p	3d																
n = 4							4s	4p	4d	4f												
n = 5											5s	5p	5d	5f								
n = 6															6s	6p	6d	6f				
n = 7																			7s	7p	7d	7f

The Noble Gas that just before Chlorine on the Periodic Table, is Neon. Use this information to provide a "shorthand" for the Electron Configuration that you figured out above:

3. Utilize the Aufbau Principle to find the Electron Configuration for Calcium.

Calcium's Atomic Number =

#Protons = #Electrons =

Calcium is in Period ____ on the Periodic Table.

Calcium has ____ Main Energy Levels.

Calcium is in the ____ Block on the Periodic Table.

Using the Aufbau Principle (or "reading" the Periodic Table from left to right) :

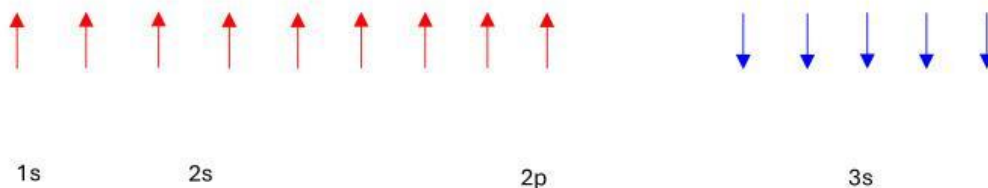
n = 1	1s			
n = 2	2s	2p		
n = 3	3s	3p	3d	
n = 4	4s	4p	4d	4f
n = 5	5s	5p	5d	5f
n = 6	6s	6p	6d	6f
n = 7	7s	7p	7d	7f

Provide a "shorthand" for the Electron Configuration that you figured out above:

4. The Electron Configuration for Oxygen is :



Write this in Orbital Notation using Hund's Rule (you have the exact amount of arrows to drag and drop) :



O : _____

Now provide the "shorthand" Orbital Notation :



5. Provide the Orbital Notation for Sodium :



Na: _____

Now provide the “shorthand” Orbital Notation :

3s

6. Complete the following statements :

The Electron Dot Notation uses dots around an Element's _____. The dots represent _____ Electrons. A max of _____ dots are used. The dots are placed as follows :

- The first 2 dots are placed as a pair (s-Orbital) to the _____ of the Chemical Symbol.
- The 3rd dot is placed at the _____ of the Chemical Symbol (p Orbital).
- The 4th dot is placed to the _____ of the Chemical Symbol (p Orbital).
- The 5th dot is placed _____ the Chemical Symbol (p Orbital).
- The remaining Electrons are now paired up with the 3 unpaired Electrons in the same order until the p-Orbital is filled

7. Provide the Electron Dot Notation for Phosphorus. Only use the required amount of dots. Throw the un-used dots in the trash can :

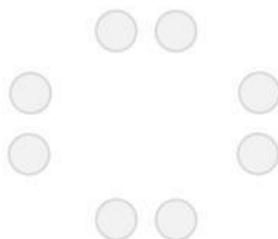
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Phosphorus is in Group _____ on
the Period Table. This means it
has _____ Valence Electrons.



8. Provide the Electron Dot Notation for Argon. Only use the required amount of dots. Throw the un-used dots in the trash can :

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



9. Provide the Electron Dot Notation for Helium. Only use the required amount of dots. Throw the un-used dots in the trash can :

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



10. Provide the Electron Dot Notation for the element that has the following Electron Notation :



Only use the required amount of dots. Throw the un-used dots in the trash can :

① ② ③ ④ ⑤ ⑥ ⑦ ⑧



11. Drag & Drop each of the following items into the correct box :

Has a positive charge.

Forms when an Atom loses an Electron.



Has a negative charge.

Forms when an Atom gains an Electron.



Anion

Cation