

Name: _____ Block: ____ Date: _____

Electron Arrangements

OBJECTIVES:

- Write electron configurations
- Write orbital filling diagrams
- Write lewis dot diagrams

DIRECTIONS:

For each of the listed elements complete a full electron configuration, a short hand electron configuration, an orbital filling diagram and a Lewis dot diagram. Keep in mind that the short hand electron configuration uses the last completed noble gas as a starting point and that the orbital diagram is used to illustrate the distribution of electrons (Hund's Rule). The Lewis dot diagram is completed using only valence electrons (s and p electrons of the outermost energy level).

1. Boron

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

2. Silicon

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

3. Sulfur

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



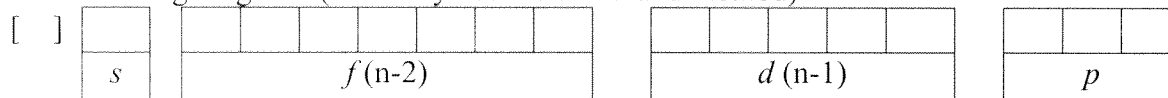
Lewis Dot Diagram:

4. Calcium

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

5. Arsenic

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

6. Iodine

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

7. Rubidium

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

8. Chromium

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

9. Uranium

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

10. Platinum

Full configuration: _____

Short hand configuration: [] _____

Orbital filling diagram: (You may use the shorthand method)



Lewis Dot Diagram:

Discussion Questions:

1. The orbital diagram has arrows pointing in opposite directions when two electrons occupy the same orbital. What do these arrows indicate?
2. How many electrons do the elements in Group B have in their Lewis Dot Diagram? Why?
3. Element X has a Lewis Dot Diagram of: X Name at least two elements this could be.
4. Identify the element that has the orbital filling diagram:

