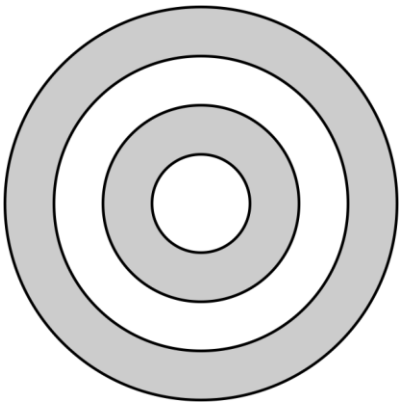
Name:_____

Electron Configuration Webquest

Part 1: http://www.learner.org/interactives/periodic/elementary2.html

1. Label the image below using the diagram:



2. How many energy levels do hydrogen and helium fill up?_____

3. How many energy levels do the elements in the 2nd row fill up?_____
4. Describe the Aufbau Principle:

Click "Orbitals"

5. What is an orbital?

6. What shape is the s-orbital?_____

7. What shape is the p-orbital?_____

8. How many p-orbitals are there?_____
9. Describe Hund's Rule:

10. What are the other two kinds of orbitals?_____

Click "Notation Styles"

11. What is the electron configuration for boron?_____
12. Describe what each of the letters and numbers mean:

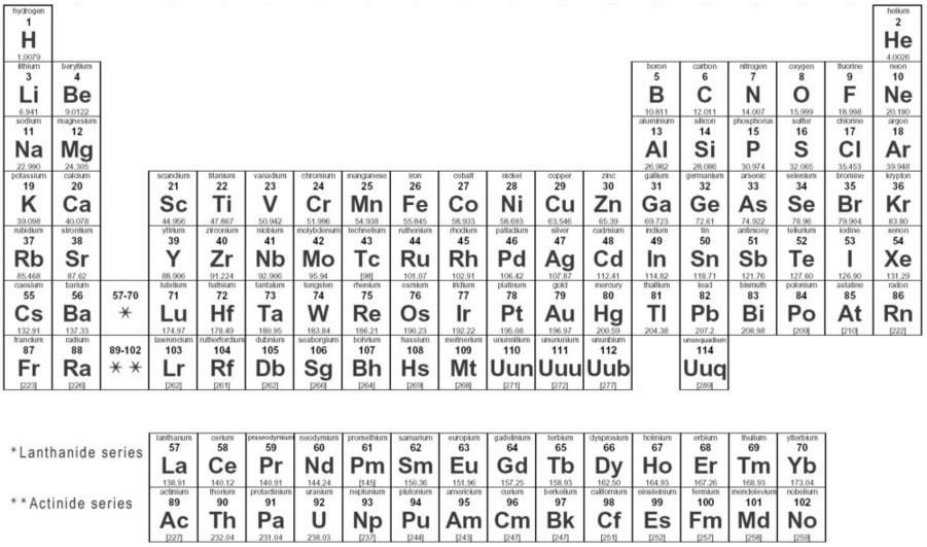
13. Draw the orbital notion for boron.

14. Why are the arrows drawn facing up and down?

15. What should the number of arrows always equal?

Part 2: https://www.sophia.org/tutorials/chemistry-electron-configuration

16. Label the sub-shells on the periodic table below. You are welcome to use color, if you would find it helpful:



17. Fill-in the table below:

Sub-Shells	Number of Orbitals	Number of Electrons
s		
p		
d		
f		

18. Describe the Pauli Exclusion Principle:

19. Describe the Address Book Analogy of Electron Configuration:

Part 3: http://micro.magnet.fsu.edu/electromag/java/atomicorbitals/index.html

20. In the spaces provided below, draw each of the different orbital shapes. Be sure to label the x, y, and z axis.

s	**p_x**	**p_y**	**p_z**
d_{x2y2}	**d_{xy}**	**d_{yz}**	**d_{zx}**
d_z^2	**f_{xyz}**	**$f_{x(z^2y^2)}$**	**$f_{y(z^2z^2)}$**
$f_{z(y^2x^2)}$	**f_x^3**	**f_y^3**	**f_z^3**

Park 4: http://employees.oneonta.edu/viningwj/sims/atomic_electron_configurations_s1.html

Click “Description” to get background information and instructions on this activity

Click on the requested element and fill-in the table below.

Element Name	Element Symbol	Electron Configuration	Orbital Notation
Helium			
Boron			
Argon			
Potassium			
Iron			
Bromine			
Silver			
Iodine			
Xenon			
Barium			
Fluorine			
Copper			
Magnesium			
Phosphorus			
Hydrogen			