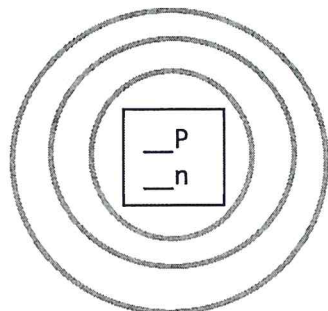


# Drawing Atoms Worksheet

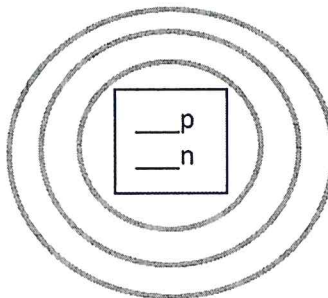
Name \_\_\_\_\_ Period \_\_\_\_\_

Use the information provided for each element to complete the diagrams. Fill in the number of protons and neutrons and draw dots for the proper locations of the electrons.

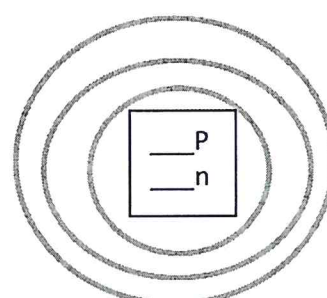
**Sulfur:** atomic number 16  
mass number 32



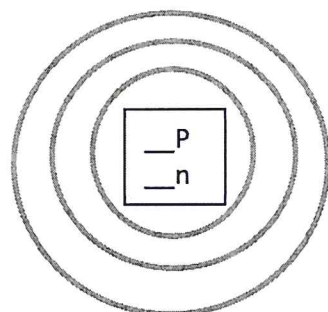
**Carbon:** atomic number 6  
mass number 12



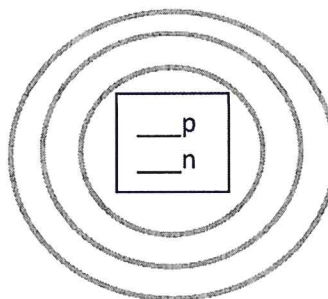
**oxygen:** atomic number 8  
mass number 16



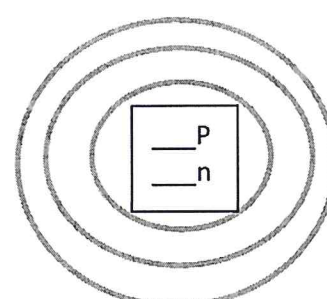
**Chlorine:** atomic number 17  
mass number 35



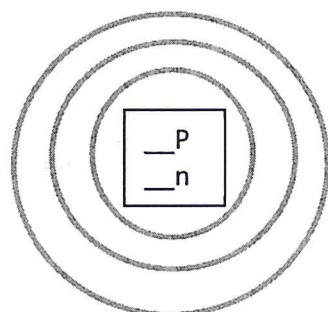
**nitrogen:** atomic number 7  
mass number 14



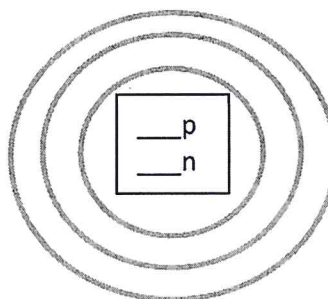
**hydrogen:** atomic number 1  
mass number 1



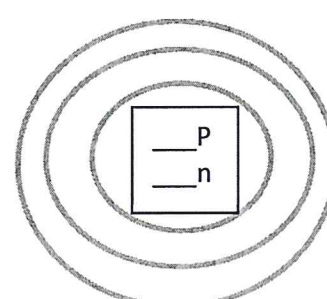
**Lithium:** atomic number 3  
Mass number 7



**phosphorus:** atomic number 15  
mass number 31



**chlorine:** atomic number 17  
mass number 35



Predict what the number of valence electrons would be for: \_\_\_\_\_Na \_\_\_\_\_K \_\_\_\_\_Si \_\_\_\_\_F

*\*Here's how to draw an atom of any element using the Bohr model of the atom:*

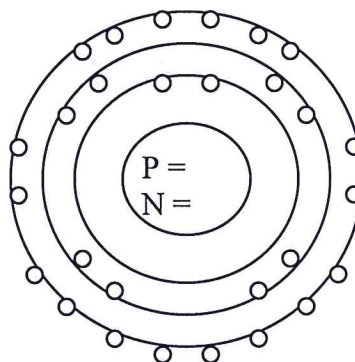
**Protons and neutrons go in the nucleus (center).**

**Electrons go in energy levels of the electron cloud.**

The first energy level only holds up to 2 electrons.

The second energy level holds up to 8 electrons.

The third energy level holds up to 18 electrons.



Example for carbon: 6 electrons total

First 2 electrons in the 1<sup>st</sup> energy level

Next 4 electrons in the 2<sup>nd</sup> energy level

**The electrons in the outermost energy level are called valence electrons (V.E.)**

Example for carbon: 2<sup>nd</sup> energy level is the outermost energy level used by carbon

Carbon has 4 valence electrons

*\*Draw a picture of an atom for each of the first ten elements and write the number of valence electrons.*

1. hydrogen V.E. \_\_\_\_\_

2. helium V.E. \_\_\_\_\_

3. lithium V.E. \_\_\_\_\_

4. beryllium V.E. \_\_\_\_\_

5. boron V.E. \_\_\_\_\_

6. carbon V.E. \_\_\_\_\_

7. nitrogen V.E. \_\_\_\_\_

8. oxygen V.E. \_\_\_\_\_

9. fluorine V.E. \_\_\_\_\_

10. neon V.E. \_\_\_\_\_