**Station 1: Valence Electrons and Oxidation Number Experts**

**Expected Outcome**: Be able to explain the relationship between valence electrons and oxidation numbers

**Task**: Using the provided materials, show how an atom’s valence electrons determine its oxidation number after ion formation. Present your findings to the class.

**Directions for constructing the models:**

1. Find the element on the periodic table. Determine the total number of protons and total number of electrons.

2. Place the proton circles in rows of the following order: 1st row = 1-2, 2nd row = 3- 10, 3rd row = 9-18, 4th row = 19-20

3. Place the electron circles top of the proton circles you just placed on the table. The last row is the VALENCE ROW.

4. Decide if your atom will gain more electrons to make an ion or if your atom will lose electrons to become an ion.

5. If your atom would gain electrons, place the necessary number in the Valence Row. If your atom would lose electrons, place the necessary number in the Valence Row.

6. Complete the table for each of the elements you model.

7. As a group, come up with a way to present this information to the class. You can use the whiteboard, a PowerPoint, a verbal discussion, etc.

**Station 2: Ionic Bond Formation Experts**

**Expected Outcome:** Be able to explain how ionic bonds are formed.

**Directions:**

1. Complete the ionic bonding activity.

2. As a group, come up with a way to present the information you have learned to the class. You can use the whiteboard, the manipulative, a PowerPoint, a verbal discussion, etc.

**Station 3: Ions and Ionic Bonding Experts**

**Expected Outcome**: Be able to explain how ions are used in ionic bonding.

**Directions**:

1. As a group, research and discuss the following:

a) How are ions formed?

b) What are the properties of ionic bonds?

c) Why are ionic bonds formed?

d) How does bonding relate to valence electrons and stability?

2. Create mini-lesson for the rest of the class to complete that would address all of the previous topics. The lesson should include an practice piece and an assessment piece.