

Activity 3: Compound Formation

Your Chemistry class has spent considerable time discussing the importance of outer shell (or **valence shell**) electrons in determining how bonds are formed between two elements. Your teacher would like you to put this learning into practice in order to predict the compound formed by the reaction of two elements – a metal and a non-metal. Use a periodic table to assist with your predictions.

Activity 4: Predicting and Explaining

Your class is now at the point of being able to provide an explanation for the outcome of a reaction. But before you do some major league explanations, she wants you to look at some good and bad explanations. In this activity, you will be given the formulas of two reactants. There are four different explanations given for what the outcome is and how the reaction takes place. You will have to analyze each explanation and identify the one that is accurate. Use the Periodic Table and an understanding of the outer shell (or valence shell) electron states to assist with your analysis.

Activity 5: Balance It!

It's now time to put it all together ... to balance a chemical equation. In this activity, you will **predict the product** of a reaction and identify its chemical formula. You will then insert coefficients into the equation in front of reactant and product formulas in order to **balance the chemical equation**. In a chemical reaction, atoms of any element are conserved. That is, the number of atoms of an element will be the same on the reactant side as the product side. You will perform an **atom count** to show that this balance exists.