Lesson Plan
"*Bond Prediction*"
Tenth Grade Chemistry
By Rich Wilczewski

LEARNING OUTCOMES:

- Students will use their textbook outlines to define the following: Chemical Bond, Covalent Bond, Ionic Bond and Polar Covalent Bond.
- Students will predict the type of chemical bond formed between two elements using electron dot notation and the electronegativities of the elements.
- Students will construct Lewis Structure Models for chemical bonds, and compounds.
- Students will construct three-dimensional ball and stick models for covalent compounds.

MATERIALS:

- Worksheet 6.1A (copy attached)
- Worksheet 6.1B (copy attached)
- Chemical Model Building Scorecard
- Overhead Sheet for Chemical Model Building Scorecard
- Overhead Sheet "Predicting Bonding Type From Electronegativity Differences"
- Molecular Model Building Kits (One per each students if possible)

ANTICIPATORY SET: "Atoms Are People Too"

Note as recommended by our school district's "Instructional Model" the class will begin with an opening activity see step 1 below. The teacher will introduce the anticipatory set immediately following the short opening activity see step 2 below.

Starting with this particular lesson, and continuing throughout the course, I capture student's interest by developing an analogy that I call **"Atoms Are People Too"**. The basic premise is as follows. Students are very interested in their peers. They talk about their peers all the time. They want to know what Mary Lou and Jack did at the dance last night. They also engage in predicting how their peers will "react" in given situations. In fact students know that they are very good at predicting other students behavior. They feel it is easy to do so. This is because they understand their friends "personalities." Most of the students correctly predicted what Mary Lou and Jack would do if they dated. Students enjoy this kind of application of their skills. The point of the analogy is that if one knows the "personalities" of the atoms it is easy to predict how they will "react." If I can get the students to "see" the atoms as they see people, with personalities, then it not only becomes easier, it also becomes fun to predict their behavior.