**Molecular Polarity**

**Assessment:** During this assessment, students will

\*\*Assemble 4-6 molecules using model kits. I used hexane, water, ammonia, formaldehyde, carbon dioxide, C2F4.

\*\*students were asked the following questions about each compound:

1. What is the formula for this compound?

2. Is this molecule polar or nonpolar?

3. What is the major intermolecular force between molecules of this compound?

4. Compare this molecule to methane. Which would you expect to have a higher boiling point?

**Scoring:**

I didn’t use a formal scoring guide. When students finished this section of the review, I went over the answers with them individually

**Reflection/ Teaching Tips:**

**Purpose for the assessment:**

The purpose of this assessment is to assess if students could determine polarity and relate it to IMFs and boiling point. The goal is making students to visualize different types of bonds and how geometry could affect polarity. This assessment also supports peer-learning, since students work in groups.

**Possible ways to use the assessment:**

It is used as a review before the test- after talking about covalent bonds. Instructor gave students immediate feedback once they finished the task.

**Additional advice for using the assessment:**

I would increase the discussion about boiling point, do a few demos with it, and perhaps an evaporation lab.

**Student understanding:**

Students struggle the most with the boiling point aspect. This held on the test. The students did significantly better on the shapes and polarity than on boiling points and IMFs. They did well with the molecular polarity (80%), average with identifying IMFs (60%), and poorly with the boiling point question (30%).

The students were able to grasp the idea of polarity based upon symmetry fairly easily. They struggled with identifying IMFs (specifically determining to use H-bonds or dipole-dipole). They seemed to understand the idea of boiling points well. They knew about EN, and polarity, but this helped them relate that to molecular geometry.