

## A Tale of Four Substances...

In Chemistry we work with a lot of substances that may appear similar, but have very different properties. In this lab you will investigate the properties of four substances. On **your piece of paper** write the title of this lab, a safety note, and make a data table to record your observations of each substance before and after mixing it with water.

### Station A

1. Place 1 tsp. of the solid into a bag.
2. Pour 20 ml of tap water into the bag.
3. Close the baggie and mix well.
4. Observe and record observations.
5. Pour contents down drain.
6. Rinse and recycle bag.

### Station B

1. Grind one tablet of the solid and place it in the bag
2. Add 10 ml of tap water.
3. Close the bag and mix well.
4. Observe and record observations.
5. Rinse and recycle bag.

### Station C

1. Place two level teaspoons of the solid in a bag.
2. Add 5-8 ml of tap water.
3. Seal the bag.
4. Observe and record observations.
5. Place bag and contents in trash.

### Station D

1. Place 1 level teaspoon of the solid in a bag.
2. Add 25 ml of tap water.
3. Seal the bag.
4. Observe and record observations.
5. Place bag and contents in trash.

### **Analysis:**

Answer the following in complete sentences on your paper.

1. Describe two similarities shared by all four substances.
2. Which substances do you think have the same properties before and after mixing with water? Which substances were changed chemically when mixed with water? Support your answer with your observations.
3. Develop a way to test your hypothesis from #2. How could you confirm if the properties of each substance were the same or different after mixing with water? Be as detailed and clear as possible!
4. Think of some of the things you encounter outside of Chemistry class. List three or more items that appear similar, but are actually different. For example, motor oil, maple syrup, and hardwood floor polish are all brown, thick liquids at room temperature, but have very different properties.