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Lab 5.2

## Compounds experiment

### Research question:

What behavior do ionic and covalent compounds exhibit when combined as a mixture?

### Intro:

Ionic and covalent compounds both exhibit different properties when combined as a mixture. Water is a polar covalent compound, and vegetable oil is a nonpolar covalent compound. Our main goal in this experiment is to determine what will happen when table salt, an ionic compound, is combined with water and vegetable oil respectively.

### Procedures:

First, we filled a test tube  $\frac{3}{4}$  full of water, and another test tube  $\frac{3}{4}$  full of vegetable oil. Second, we pinched salt into each of the test tubes. Thirdly, a member of our lab group put on a latex glove, put their thumb over the top of each test tube, and shook them for several minutes. After the liquids settled, we were able to look through both of the tubes and see the difference in what had happened.

### Results:

In the end, each test tube had a different result. The tube with water had no more visible salt in it, the salt had all dissolved into the water. The tube full of oil on the other hand had a different reaction. All the salt in the tube filled with oil had sank down to the bottom instead of dissolving into it.

### Conclusion:

It seems that the vegetable oil is nonpolar, meaning it has no charges and is not attracted by charges to ionic or covalent compounds, thus I did not dissolve the salt.

This experiment demonstrates that “like dissolves like” meaning that:

1. Polar covalent compounds are compatible with each other
2. Nonpolar covalent compounds are compatible with each other
3. Nonpolar covalent compounds and polar covalent compounds are not compatible with each other.