

Hutch Oliver
3rd period chemistry
Experiment 2.2
Module 2 lab report

Research questions:

- What is the difference between an Ionic and Covalent compound experimentally?
- How can we break the bonds of compounds?

Intro:

Ionic and covalent compounds are two types of mixtures, ionic bonds occur due to the permanent transfer of one or more electrons from one atom to another. Ionic bonding can only form between metals and non metals. Covalent bonds occur due to sharing of electrons between two atoms. Covalent bonding can also only form between non-metallic elements.

Procedures:

First, we poured approximately 150 mL of water into each beaker. Next, we put one rounded spatula full of sugar into one beaker of water and mixed thoroughly. Then, we put one rounded spatula full of baking soda into the beaker of water and mixed it thoroughly. Then, we attached leads to a 9-volt battery, and stuck it into the sugar water. Then, we took the leads out of the sugar water and out it into the baking soda water.

Results:

- When we stuck the leads into the sugar water, nothing happened.
- When we put the leads into the baking soda water, the tips of the leads started bubbling.
- The tip of the positively charged lead was turned blue at the end.

Conclusion:

Ionic compounds conduct electricity and covalent compounds do not. Baking soda mixed with water conducts electricity and sugar water does not.

Since baking soda is a mixture of a sodium molecule and 2 carbon molecules, it conducts electricity due to sodium being a metal. The sugar water does not conduct electricity because sugar is made up of carbon, hydrogen, and oxygen, it is entirely nonmetal and is therefore covalent.