

Ionic VS Covalent Lab

By: Ryan Colton

Research Question: What is the difference between ionic and covalent compounds experimentally? How can we break the bond of compounds?

Introduction: ionic bonding occurs from between metals and non metals. Ionic bonds have a high polarity, and generally have a very high boiling and melting point. Covalent bonding is much different. Covalent bonding occurs due to sharing electrons between two atoms. Covalent bonds can only come from non metallic elements. Unlike the ionic bonds they have low melting and boiling points.

Procedures: First pour approximately 150 ml of H₂O into each beaker. Next, put one rounded spatula full of sugar into one beaker of H₂O and mix thoroughly. Next, put one rounded spatula full of baking soda into the other beaker of H₂O and mix thoroughly (use Different spatula). Next prepare your battery with leads. Next stick battery attached leads into sugar H₂O first, observe and record. Lastly stick the battery with leads into baking soda solution next, observe and record.

Results: When putting the battery in the sugar water, the sugar did not react any different. When putting the battery in the baking soda water it reacted by creating little bubbles making the leads turn a bluish green color.

Conclusion: Ionic compounds conduct electricity while covalent do not. For example baking soda is ionic which makes a chemical reaction with the battery while the sugar did nothing. What makes the baking soda ionic is the element sodium. When a metal and a non metal react it is an ionic compound.