

Ionic and Covalent Compound Lab

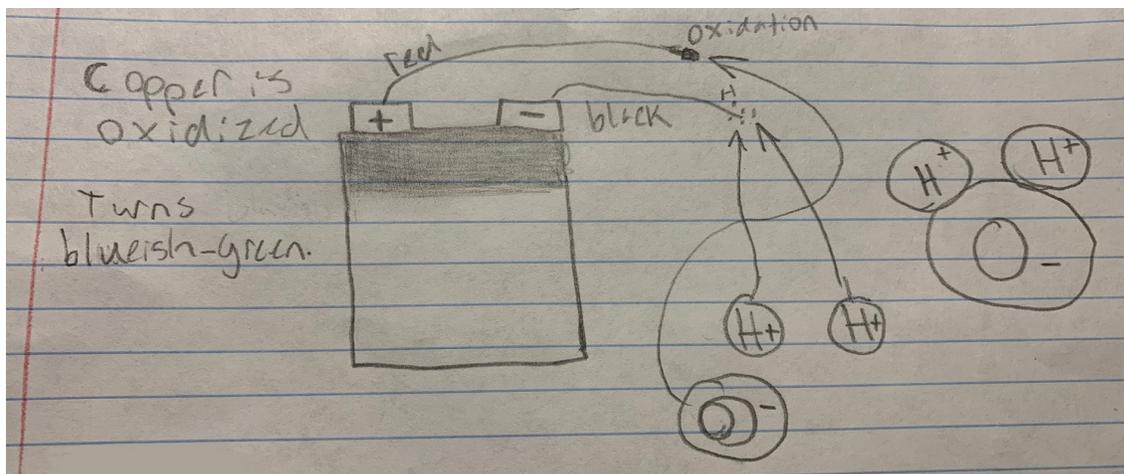
Research Question: What is the difference between ionic and covalent compounds experimenting? How can we break the bond of compounds?

Intro: A covalent bond occurs due to sharing of electrons between two atoms. Covalent compounds are sometimes liquid or sometimes in a gaseous state at room temp.

Ionic bond occurs due to the permanent transfer of one or more electrons from one atom to another. Ionic compounds are solid at room temp.

Procedure: First, we poured 150ml (about 5.07 oz) of H₂O into each beaker. Then we put one rounded spatula full of sugar into one of the beakers and we mixed it thoroughly. We then put one rounded spatula full of baking soda in the other beaker of H₂O and mixed thoroughly. (Being certain to use a different spatula) Next, we prepared our battery with leads. Then we stuck the battery with the attached leads into the sugar H₂O and recorded the reaction. Lastly, we stuck the battery with the attached leads into the baking soda solution and observed what happened.

Results: When we placed the battery in the sugar H₂O nothing happened. However, in the baking soda H₂O the leads on the battery started bubbling and it also looked like it was smoking in the water. The water in the baking soda H₂O started turning blue after a while and so did the bubbles.



Conclusion: Ionic compounds conduct electricity. Covalent compounds do not. You can test using electrical current baking soda is ionic. Sugar is the covalent. Ionics have metals in them. Metals conduct electricity.

Vocab:

Compound- A substance that can be decomposed into elements by chemical means.

Chemical Reaction- A process by which one or more substances change into one or more different substances.

Ionic Compound- A compound formed by ions.

Covalent Compound- A compound formed by atoms that share electrons.

Electrolysis- Technique that uses a direct electric current to drive an otherwise non-spontaneous chemical reaction.

Mixture- A substance that contains different compounds and/or elements.

Solutions- The result of one or more solutes being dissolved in a solvent.