**Hypothesis:**

**Materials**

* Ionic compounds: A **sodium chloride** and B **copper (II) sulfate**
* Covalent Compounds: C **sucrose (C12H22O11)** and D **cornstarch**
* Safety Glasses
* 50 ml beakers
* Watch glasses
* Water bottles with distilled water
* Spatulas
* Conductivity tester
* Hot plate
* Aluminum Foil

**Procedure**

Station 1 (Melting point)

1. Turn your hot plate on to 5.
2. Fold/shape the sides so that there is a ridge around your aluminum foil
3. Place a small amount (pea size) of **A** and **C** onto the aluminum foil and place on hot plate. Keep them separated.
4. Remove the aluminum foil once one of the substances begins to melt with the tongs. Run cold water over the foil before throwing away.
5. Turn off hot plate and record results.

Station 2 (Appearance and Solubility):

1. Observe and record the appearance of the element sample. Observations should include physical state, color, and other characteristics such as luster and texture.
2. For solubility place a **very small amount** (only a few crystals) of each compound in a watch glass. Using a water bottle gently add water. If necessary, stir with a wooden stick. Record your observations. Clean watch glasses and dry them when you are finished.

Station 3 (Conductivity)

1. Place the **place only the metal tips** of the tester in a solution. Record the conductivity. **Rinse just the electrodes with distilled water** from the squeeze bottle.
2. Repeat with remaining solutions and record your results.

**Results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Compound | Melting Point | Appearance  | Solubility | Electrical conductivity |
| **A** |  |  |  |  |
| **B** |  |  |  |  |
| **C** |  |  |  |  |
| **D** |  |  |  |  |

**Post Lab Questions**

1. Which substances, **ionic or covalent**, have lower melting points? Use **specific evidence** from the lab to support your answer.
2. Which substances, **ionic or covalent**, dissolve easier/faster in water? Use **specific evidence** from the lab to support your answer.
3. Which substances, **ionic or covalent**, conduct electricity better in solution? Use **specific evidence** from the lab to support your answer. Why do you think that is based off what happened at Station 2 with solubility?
4. Would CaCO3 be ionic or covalent? Predict what properties CaCO3 will have according to your lab results.
5. If an unknown compound has a low melting point, is not brittle, and small amount dissolves in water is it ionic or covalent? Why or why not?

**Conclusion:**