Ionic Bonding Lab

**Objective:** I can analyze an ionic bond.

*Complete the following in your science notebook!*

**Pre-lab questions.** Answer these in your science notebook.

1. When two ions are brought together, they form a chemical bond.  Would you expect two positive ions to form a chemical bond?  Explain.
2. Draw a Lewis-Dot Model of Sodium and Salt. What charge do they have (write the charge like this example for Hydrogen H 1+)?
3. Remember what an ionic bond is and tell me why does sodium and salt combine to form salt (sodium chloride)? Write the chemical formula.
4. The goal of ionic bonding is to create a neutral compound.  For a +1 ion and a-1 ion they simply go together in a 1:1 ratio.  However what do you think happens when you join a +2 ion like Mg with F which is -1?  Write out the Lewis-Dot Model for each. Then, write the chemical formula for this new compound.
5. Give one additional example of an ionic compound.  Write the correct chemical formula.

**Procedure**

* 1. Put on some safety glasses.
  2. Measure out 5 grams of salt.  Use a bunsen burner, ring stand, and wire mesh to melt the salt.  Make a prediction for how long it will take the salt to melt.  Then melt the salt and record the time it takes to melt?
  3. Look up the melting point for salt on the internet.  Explain the relationship between ionic bonds and bond strength.
  4. Next measure out 5 grams of salt and mix in 50 ml of water.  What happens?  Explain why salt is so hard to melt but dissolves easily in water.  Why does water dissolve ionic compounds?

*Teacher will demonstrate this part.*

* 1. Use a conductivity tester to see how your salt solution conducts electricity. What did you find? Explain.

**Conclusion-** Draw a model of salt and in the model show why water is able to dissolve it so easily.