

5. Note which substances melted and how long the substances took to melt.
6. Place five test tubes in the test-tube rack. Place 0.5 g of each solid into its own individual test tube. Add 5 mL of deionized water to each test tube. Stopper and shake each test tube in an attempt to dissolve the solid.
7. Note which substances dissolved in the water.
8. Place the solutions or mixtures into separate 50 mL beakers, and immerse the electrodes of the conductivity tester. Rinse the electrodes with the solvent (deionized water) before and after each test. Note which substances conduct electricity.

CLEANUP AND DISPOSAL

9. Dispose of solids and solutions in containers designated by your teacher.
10. Clean all equipment and return it to its proper place.
11. Wash your hands thoroughly after cleaning up your area and equipment.



ANALYSIS AND INTERPRETATION

1. **Analyzing Methods:** Why did you rinse the electrodes before each conductivity test?
2. **Analyzing Methods:** Why did you use deionized water in making the solutions?
3. **Organizing Data:** List the results that each type of bonding should show.

CONCLUSIONS

1. **Inferring Conclusions:** What type of bonding describes each substance? Explain your reasoning.
2. **Inferring Conclusions:** Comparing the properties of your unknown solid with the properties of the known solids, determine the type of bonding present in your unknown solid.

EXTENSIONS

1. **Evaluating Methods:** Is it possible, for a specific type of bonding, for these properties to vary from what was observed in this experiment? If so, give an example of such a variance.
2. **Applying Conclusions:** Think about diamond. What would you predict to be the results of this experiment performed on diamond, and what would you predict the bond type to be?