

Helpful Guidelines for Lab Tests

Conductivity Procedures (in liquid)

1. Put a small amount of liquid (distilled water or tap water) in a well of the well plate.
2. Test the conductivity without adding any sugar or salt.
3. Add a small scoop (about 1-2 grams) of sugar to the liquid.
4. Stir the contents.
5. Test the conductivity and record your results.
6. Clean off the electrodes of the conductivity tester with water. Dry and repeat the procedures using the salt.

Conductivity Procedures (dry)

1. Put a small amount (about 1-2 grams) of sugar in a well of the well plate.
2. Insert the conductivity tester into the dry sugar and record the results.
3. Clean off the electrodes of the conductivity tester with water. Dry and repeat the procedures using the salt.

Solubility Procedures (in water)

1. Add water (tap or distilled) to a well in the well plate until it is about half filled.
2. Add a small scoop (about 1-2 grams) of sugar into the water.
3. Stir the contents.
4. Record the solubility by describing how well the substance dissolved in the water.

Solubility Procedures (in alcohol)

1. Add alcohol to a well in the well plate until it is about half filled.
2. Add a small scoop (about 1-2 grams) of sugar into the oil.
3. Stir the contents.
4. Record the solubility by describing how well the substance dissolved in the alcohol.

Melting Point Procedures

1. Plug in the hot plate and warm on medium heat.
2. Add about 2-5 grams of sugar and salt to separate foil squares and carefully put them on the hot plate.
3. Adjust the heat as needed to get it hot enough.
4. As soon as either substance starts to melt, take the foil off the burner using the tongs. Turn off the hot plate and unplug it.

Brittleness (crush test)

1. Add about 2-5 grams of sugar to the mortar.
2. Use the pestle to grind the sugar for a very small amount of time (about 3 turns).
3. Remove some of the broken sugar and view the crystals in the microscope. Describe how the crystals changed.
4. Clean out the mortar and pestle by rinsing in water and drying thoroughly.
5. Repeat the procedures using the same amount of salt.



Crystal Formation (evaporation test)

1. Use an eyedropper to squirt a little bit of supersaturated solution onto a black or colored paper for contrast.
2. Let it evaporate. Blow or fan to speed evaporation.
3. View under a microscope and record observations once the structure is visible.

Boiling Point of Solutions

1. Place equal amounts of salt and sugar into two separate 50 mL glass beakers.
2. Add at least 25 mL of water to each. Stir to dissolve (or at least try to dissolve solids).
3. Place both on a hot plate and stir.
4. Measure the temperature once boiling occurs.

