

Ionic or Molecular?

Summary

Students will test and observations six compounds and determine whether they are molecular or ionic. They will test general appearance, melting point and the electrical conductivity of water solutions.

Time Frame

1 class periods of 90 minutes each

Group Size

Small Groups

Materials

- [student sheet](#)

CBL System with conductivity probe (or other method to test conductivity)

H₂O (distilled)

TI-83 Graphing Calculator

Bunsen Burner and Goggles

Vernier Conductivity Probe

Plastic drinking cups

Wash bottle with distilled water

sodium chloride (NaCl)

potassium iodide (KI)

Copper(II sulfate (CuSO₄))

glucose (C₆H₁₂O₆)

salicylic acid (C₇H₆O₄)

camphor (C₁₀H₁₆O).

Background for Teachers

Safety considerations:

Students must wear safety glasses and follow approved guidelines for handling all chemicals.

Students should not heat test tubes beyond the point needed to see melting occur. The glass may melt.

Instructional Procedures

Assemble the needed materials. If you do not have conductivity meters, a battery, voltmeter or small light (LED or Christmas tree lights) two leads and two electrodes will work.

Assemble in a circuit and use the brightness of the light as a qualitative measure of conductivity.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

[Utah LessonPlans](#)