

Lesson Plan: Vapor Pressure

This lesson plan includes the objectives, prerequisites, and exclusions of the lesson teaching students how to explain vapor pressure, its relation to boiling point, and the factors that affect vapor pressure.

■ Objectives

Students will be able to

- ▶ define and explain vapor pressure,
- ▶ describe and explain the effect vapor pressure has on the melting and boiling points of a substance,
- ▶ describe and explain how the addition of salts to pure liquids affects the vapor pressure and hence the melting and boiling points,
- ▶ identify the relative volatility of a liquid from its vapor pressure,
- ▶ outline experimental procedures to measure the vapor pressure of a liquid,
- ▶ use experimental data and diagrams to predict the relative temperature or volatility of a liquid,
- ▶ calculate the boiling point elevation and freezing point depression when a salt is dissolved in a solvent.

■ Prerequisites

Students should already be familiar with

- ▶ melting and boiling points,
- ▶ solids, liquids, and gases.

■ Exclusions

Students will not cover

- ▶ vapor pressure of solids (e.g., sublimation of dry ice),
- ▶ estimating or calculating vapor pressure,
- ▶ the vapor pressure of mixtures of liquids.