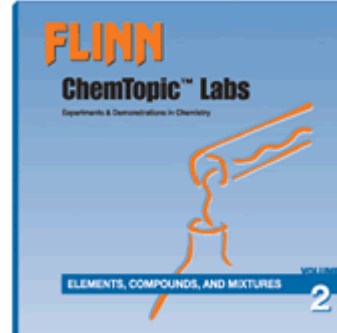


Elements, Compounds and Mixtures— Demonstration Summaries and Concepts



Classifying Matter Worksheets

Learning the elements, identifying physical and chemical changes, and classifying elements, compounds, and mixtures are essential skills students will use all year long in their study of chemistry. Build a solid foundation for further study using these classifying matter worksheets!

Polyurethane Foam—Physical and Chemical Changes

Chances are, sometime today you have used a product containing polyurethane foam. Polyurethane foams provide cushioning, support, and insulation in a wide range of products from seat cushions to running shoes. Use this polymer demonstration to teach students about physical and chemical changes and to introduce polymers and their applications. The final product—a rigid yet lightweight foam—never fails to amaze!

Analysis of Dye Mixtures—Thin-Layer Chromatography

Thin-layer chromatography (TLC) is a valuable and versatile technique for separating and analyzing organic compounds. TLC is used in dye analysis, for example, to identify dyes in fiber and fabric analysis and to determine the composition of natural dyes in plants and animals. In this demonstration, thin-layer chromatography will be used to separate eosin Y, fluorescein, methylene blue, and safranin. The results are beautiful!

Simple Distillation—Separation of a Mixture

Distillation is a process for the purification or separation of the components in a liquid mixture. The mixture is heated to evaporate the volatile components, and the vapor is then condensed to a liquid. How does the composition of the distillate differ from the composition of the original liquid? Use this demonstration as an opportunity to discuss the role of science and technology in managing our natural resources—distillation is a key technology in desalination plants for the production of drinking water.

Concepts

- Element symbols
- Physical and chemical changes
- Elements, compounds, and mixtures

- Physical and chemical changes
- Polymers

- Separation of a mixture
- Chromatography
- Physical properties

- Separation of a mixture
- Distillation
- Evaporation and condensation
- Boiling point