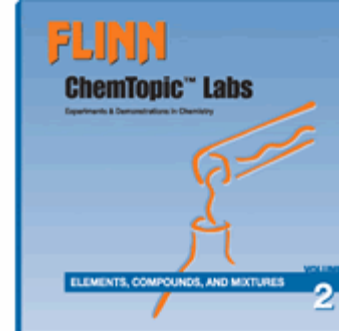


Elements, Compounds, and Mixtures— National Science Education Standards



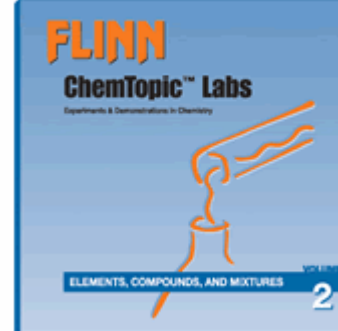
Experiments and Demonstrations

Content Standards

	Properties of Elements	Percent Water in a Hydrate	Paper Chromatography	Chromatography Challenge	Separating a Mixture by Filtration	Classifying Matter Worksheets	Polyurethane Foam	Analysis of Dye Mixtures	Simple Distillation
Unifying Concepts and Processes									
Systems, order, and organization	✓					✓			
Evidence, models, and explanation	✓	✓							
Constancy, change, and measurement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Evolution and equilibrium									✓
Form and function	✓						✓		
Science as Inquiry									
Identify questions and concepts that guide scientific investigation	✓	✓		✓					
Design and conduct scientific investigations	✓	✓		✓	✓			✓	
Use technology and mathematics to improve scientific investigations		✓			✓				
Formulate and revise scientific explanations and models using logic and evidence	✓			✓					
Recognize and analyze alternative explanations and models		✓							
Communicate and defend a scientific argument									
Understand scientific inquiry	✓			✓					
Physical Science									
Structure of atoms									
Structure and properties of matter	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chemical reactions	✓	✓			✓	✓	✓		
Motions and forces									
Conservation of energy and the increase in disorder									
Interactions of energy and matter	✓						✓		✓

Continued on next page

Elements, Compounds, and Mixtures— National Science Education Standards



Experiments and Demonstrations

Content Standards (continued)

	Properties of Elements	Percent Water in a Hydrate	Paper Chromatography	Chromatography Challenge	Separating a Mixture by Filtration	Classifying Matter Worksheets	Polyurethane Foam	Analysis of Dye Mixtures	Simple Distillation
Science and Technology									
Identify a problem or design an opportunity				✓					
Propose designs and choose between alternative solutions				✓					
Implement a proposed solution				✓					
Evaluate the solution and its consequences				✓					
Communicate the problem, process, and solution									
Understand science and technology									
Science in Personal and Social Perspectives									
Personal and community health									
Population growth									
Natural resources	✓								✓
Environmental quality									
Natural and human-induced hazards	✓								
Science and technology in local, national, and global challenges									
History and Nature of Science									
Science as a human endeavor			✓				✓		
Nature of scientific knowledge	✓	✓							
Historical perspectives			✓						