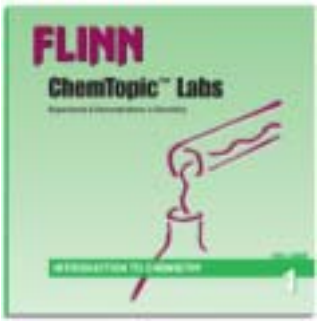
Introduction to Chemistry—
National Science Education Standards



Experiments and Demonstrations

Content Standards	Observation and Experiment	Introduction to Measurement	Discovering Density	Beverage Density Lab	Separation of a Mixture	What Is a Chemical Reaction?	Acid in the Eye	Reading Volumes	Mass vs. Density	Classifying Matter	A Burning Candle
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			✓			✓					
Understanding 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	✓					✓					

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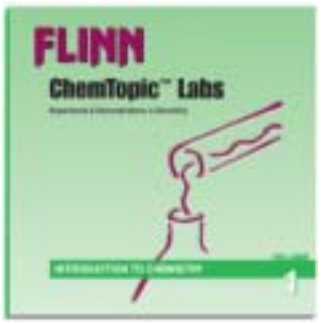

Experiments and Demonstrations

Content Standards *(continued)*

	Observation and Experiment	Introduction to Measurement	Discovering Density	Beverage Density Lab	Separation of a Mixture	What Is a Chemical Reaction?	Acid in the Eye	Reading Volumes	Mass vs. Density	Classifying Matter	A Burning Candle
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			✓								