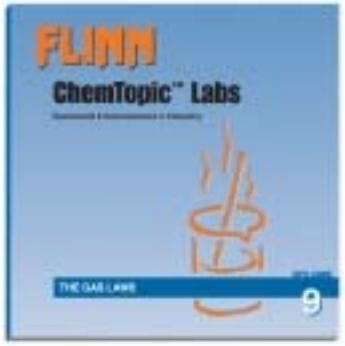
The Gas Laws—
National Science Education Standards



Experiments and Demonstrations

Content Standards	Boyle's Law in a Bottle	Charles's Law and Absolute Zero	Molar Volume of Hydrogen	Technology and the Forgotten Gas Law	Life on Planet V	The Collapsing Can	Massing Gases	Molar Mass of Butane	Diffusion of Gases	Construction of Gas Volume Cubes	Cartesian Divers
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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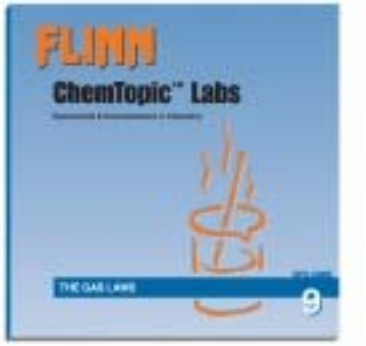
The Gas Laws—
National Science Education Standards



Experiments and Demonstrations

Content Standards *(continued)*

	Boyle's Law in a Bottle	Charles's Law and Absolute Zero	Molar Volume of Hydrogen	Technology and the Forgotten Gas Law	Life on Planet *V*	The Collapsing Can	Massing Gases	Molar Mass of Butane	Diffusion of Gases	Construction of Gas Volume Cubes	Cartesian Divers
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	✓	✓		✓							✓