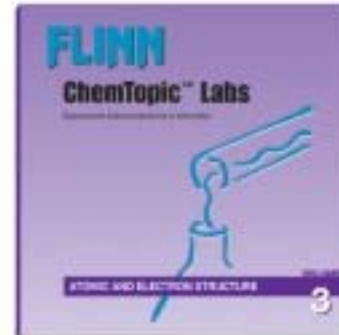


Atomic and Electron Structure— National Science Education Standards



Experiments and Demonstrations

Content Standards

	<i>Bean Bag Isotopes</i>	<i>Atomic Target Practice</i>	<i>Quantum Leap Lab</i>	<i>Flame Tests</i>	<i>Atomic Spectra</i>	<i>Atomic Coatings</i>	<i>Think Tube</i>	<i>Energy in Photons</i>	<i>Measuring the Size of a Molecule</i>	<i>Photoelectric Effect</i>	<i>Opoh! Aaah! Flame Tests</i>
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			✓	✓	✓			✓		✓	✓

Continued on next page

Atomic and Electron Structure— National Science Education Standards



Experiments and Demonstrations

Content Standards (continued)

	Bean Bag Isotopes	Atomic Target Practice	Quantum Leap Lab	Flame Tests	Atomic Spectra	Atomic Coatings	Think Tube	Energy in Photons	Measuring the Size of a Molecule	Photoelectric Effect	Oooh! Aaah! Flame Tests
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	✓	✓	✓		✓			✓		✓	