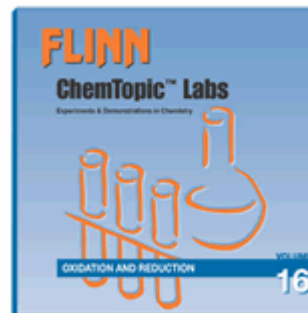


Oxidation and Reduction— National Science Education Standards



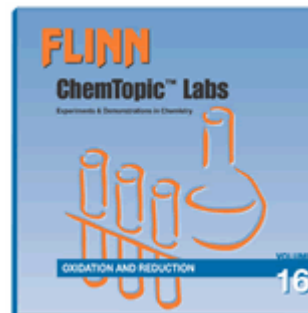
Experiments and Demonstrations

Content Standards

	Metal Activity and Reactivity	Oxidation-Reduction Survey	Corrosion of Iron	Analysis of Hydrogen Peroxide	UV-Sensitive Paper	Fantastic Four-Color Oscillator	The Can Ripper	The Floating Tin Sponge	Oxidation States of Vanadium	The Silver Mirror Award
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

Oxidation and Reduction— National Science Education Standards



Experiments and Demonstrations

Content Standards (continued)

	Metal Activity and Reactivity	Oxidation-Reduction Survey	Corrosion of Iron	Analysis of Hydrogen Peroxide	UV-Sensitive Paper	Fantastic Four-Color Oscillator	The Can Ripper	The Floating Tin Sponge	Oxidation States of Vanadium	The Silver Mirror Award
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									✓	✓