

# Nuclear Chemistry— National Science Education Standards



## Experiments and Demonstrations

### Content Standards

	<i>Up in the Clouds</i>	<i>Natural Radiation</i>	<i>Properties of Nuclear Radiation</i>	<i>Half-Life Simulation</i>	<i>Carbon-Dating Activity</i>	<i>Salt with a Sparkle</i>	<i>Red Licorice Decay</i>	<i>Radioactive Decay Cards</i>	<i>Quantitative Shielding</i>
<b>Unifying Concepts and Processes</b>									
Systems, order, and organization	✓	✓	✓	✓	✓		✓	✓	✓
Evidence, models, and explanation	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constancy, change, and measurement		✓		✓					✓
Evolution and equilibrium				✓	✓				
Form and function									
<b>Science as Inquiry</b>									
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									
<b>Physical Science</b>									
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

# Nuclear Chemistry— National Science Education Standards



## Experiments and Demonstrations

### Content Standards (continued)

	<i>Up in the Clouds</i>	<i>Natural Radiation</i>	<i>Properties of Nuclear Radiation</i>	<i>Half-life Simulation</i>	<i>Carbon-Dating Activity</i>	<i>Salt with a Sparkle</i>	<i>Red Licorice Decay</i>	<i>Radioactive Decay Cards</i>	<i>Quantitative Shielding</i>
<b>Science and Technology</b>									
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	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Science in Personal and Social Perspectives</b>									
Personal and community health									
Population growth									
Natural resources									
Environmental quality									
Natural and human-induced hazards	✓	✓	✓	✓	✓	✓	✓	✓	✓
Science and technology in local, national, and global challenges	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>History and Nature of Science</b>									
Science as a human endeavor									
Nature of scientific knowledge	✓	✓	✓						✓
Historical perspectives	✓			✓	✓			✓	

**FLINN SCIENTIFIC INC.** *Your Safer Source for Science Supplies* P.O. Box 219, Batavia, IL 60510  
 1-800-452-1261 • Fax: (866) 452-1436  
 E-mail: flinn@flinnsci.com • Website: www.flinnsci.com