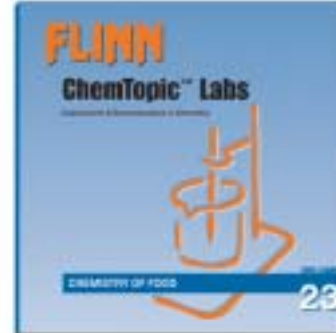


Chemistry of Food— National Science Education Standards



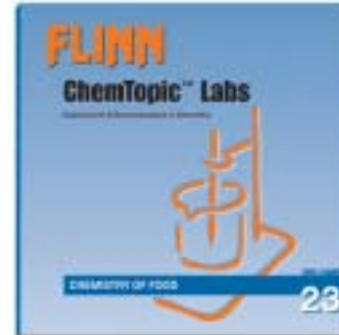
Experiments and Demonstrations

Content Standards

| | <i>Food Testing Lab</i> | <i>Milk Is a Natural</i> | <i>Boning Up on Calcium</i> | <i>Vitamin C Analysis</i> | <i>Total Acidity</i> | <i>The Power of Cheese</i> | <i>Microbial Madness in Milk</i> | <i>Nails for Breakfast?</i> | <i>Iodized Salt</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 | | | | | | | | | |
| 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

Chemistry of Food— National Science Education Standards



Experiments and Demonstrations

Content Standards (continued)

| | <i>Food Testing Lab</i> | <i>Milk Is a Natural</i> | <i>Boning Up on Calcium</i> | <i>Vitamin C Analysis</i> | <i>Total Acidity</i> | <i>The Power of Cheese</i> | <i>Microbial Madness in Milk</i> | <i>Nails for Breakfast?</i> | <i>Iodized Salt</i> |
|--|-------------------------|--------------------------|-----------------------------|---------------------------|----------------------|----------------------------|----------------------------------|-----------------------------|---------------------|
| 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 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |