

# Academy of Science for Kids' Little Professor Science Kits

## National Science Education Standards (NSES)

### Alignment Matrix

<b>Key:</b> X = denotes a correlation in ideas and concepts in both standard and lessons	Life Science 101 Seeds	Life Science 102 Ecology	Life Science 103 Jr Naturalist	Life Science 104 Dissection	Life Science 105 Human Body	Earth Science 101 Rocks & Minerals	Earth Science 102 Astronomy	Earth Science 103 Weather	Chemistry 101 Polymers	Chemistry 102 Matter	Chemistry 103 Food Science	Physics 101 Newton's Laws	Physics 102 Electricity	Physics 103 Magnetism
---	---------------------------	-----------------------------	-----------------------------------	--------------------------------	--------------------------------	---------------------------------------	--------------------------------	------------------------------	---------------------------	-------------------------	-------------------------------	------------------------------	----------------------------	--------------------------

**NSES Content Standard A: Science As Inquiry** As a result of activities in grades K-12, all students should develop

<ul style="list-style-type: none"> <li>Abilities necessary to do scientific inquiry</li> </ul>	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<ul style="list-style-type: none"> <li>Understandings about scientific inquiry</li> </ul>	X	X	X	X	X	X	X	X	X	X	X	X	X	X

**NSES Content Standard B: Physical Science** As a result of activities in grades K-4, all students should develop an understanding of

<ul style="list-style-type: none"> <li>Properties of objects and materials</li> </ul>	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<ul style="list-style-type: none"> <li>Position and motion of objects</li> </ul>	X			X	X	X	X	X	X	X		X	X	X
<ul style="list-style-type: none"> <li>Light, heat, electricity, and magnetism</li> </ul>	X					X	X	X		X		X	X	X

<b>Key:</b> X = denotes a correlation in ideas and concepts in both standard and lessons	Life Science 101 Seeds	Life Science 102 Ecology	Life Science 103 Jr Naturalist	Life Science 104 Dissection	Life Science 105 Human Body	Earth Science 101 Rocks & Minerals	Earth Science 102 Astronomy	Earth Science 103 Weather	Chemistry 101 Polymers	Chemistry 102 Matter	Chemistry 103 Food Science	Physics 101 Newton's Laws	Physics 102 Electricity	Physics 103 Magnetism
---	---------------------------	-----------------------------	-----------------------------------	--------------------------------	--------------------------------	---------------------------------------	--------------------------------	------------------------------	---------------------------	-------------------------	-------------------------------	------------------------------	----------------------------	--------------------------

**NSES Content Standard B: Physical Science** As a result of activities in grades 5-8, all students should develop an understanding of

• Properties and changes of properties in matter	X	X	X	X	X	X	X	X	X	X	X	X	X	X
• Motions and forces						X	X	X		X	X	X	X	X
• Transfer of energy	X	X	X		X	X	X	X	X	X	X	X	X	X

**NSES Content Standard B: Physical Science** As a result of activities in grades 9-12, all students should develop an understanding of

• Structure of atoms										X			X	
• Structure and properties of matter	X			X	X				X	X	X		X	X
• Chemical reactions	X	X	X		X	X			X	X	X			
• Motions and forces						X	X	X				X	X	X
• Conservation of energy and increase in disorder	X	X								X				
• Interactions of energy and matter	X	X	X				X	X	X	X	X	X	X	X

<b>Key:</b> X = denotes a correlation in ideas and concepts in both standard and lessons	Life Science 101 Seeds	Life Science 102 Ecology	Life Science 103 Jr Naturalist	Life Science 104 Dissection	Life Science 105 Human Body	Earth Science 101 Rocks & Minerals	Earth Science 102 Astronomy	Earth Science 103 Weather	Chemistry 101 Polymers	Chemistry 102 Matter	Chemistry 103 Food Science	Physics 101 Newton's Laws	Physics 102 Electricity	Physics 103 Magnetism
---	---------------------------	-----------------------------	-----------------------------------	--------------------------------	--------------------------------	---------------------------------------	--------------------------------	------------------------------	---------------------------	-------------------------	-------------------------------	------------------------------	----------------------------	--------------------------

**NSES Content Standard C: Life Science** As a result of their activities in grades K-4, all students should develop an understanding of

• The characteristics of organisms	X	X	X	X	X						X			
• Life cycles of organisms	X	X	X											
• Organisms and environments	X	X	X					X			X			

**NSES Content Standard C: Life Science** As a result of their activities in grades 5-8, all students should develop an understanding of

• Structure and function in living things	X	X	X	X	X									
• Reproduction and heredity	X	X	X											
• Regulation and behavior	X	X	X		X									
• Populations and ecosystems	X	X	X											
• Diversity and adaptations of organisms	X	X	X	X	X									

<b>Key:</b> <b>X</b> = denotes a correlation in ideas and concepts in both standard and lessons	Life Science 101 Seeds	Life Science 102 Ecology	Life Science 103 Jr Naturalist	Life Science 104 Dissection	Life Science 105 Human Body	Earth Science 101 Rocks & Minerals	Earth Science 102 Astronomy	Earth Science 103 Weather	Chemistry 101 Polymers	Chemistry 102 Matter	Chemistry 103 Food Science	Physics 101 Newton's Laws	Physics 102 Electricity	Physics 103 Magnetism
--	---------------------------	-----------------------------	-----------------------------------	--------------------------------	--------------------------------	---------------------------------------	--------------------------------	------------------------------	---------------------------	-------------------------	-------------------------------	------------------------------	----------------------------	--------------------------

**NSES Content Standard C: Life Science** As a result of their activities in grades 9-12, all students should develop an understanding of

• The cell					X									
• Molecular basis of heredity														
• Biological evolution														
• Interdependence of organisms	X	X	X								X			
• Matter, energy, and organization in living systems	X				X						X			
• Behavior of organisms	X	X	X		X									

**NSES Content Standard D: Earth and Space Science** As a result of their activities in grades K-4, all students should develop an understanding of

• Properties of earth materials	X	X	X			X	X	X		X	X			
• Objects in the sky							X	X					X	
• Changes in earth and sky							X	X		X			X	

<b>Key:</b> X = denotes a correlation in ideas and concepts in both standard and lessons	Life Science 101 Seeds	Life Science 102 Ecology	Life Science 103 Jr Naturalist	Life Science 104 Dissection	Life Science 105 Human Body	Earth Science 101 Rocks & Minerals	Earth Science 102 Astronomy	Earth Science 103 Weather	Chemistry 101 Polymers	Chemistry 102 Matter	Chemistry 103 Food Science	Physics 101 Newton's Laws	Physics 102 Electricity	Physics 103 Magnetism
---	---------------------------	-----------------------------	-----------------------------------	--------------------------------	--------------------------------	---------------------------------------	--------------------------------	------------------------------	---------------------------	-------------------------	-------------------------------	------------------------------	----------------------------	--------------------------

**NSES Content Standard D: Earth and Space Science** As a result of their activities in grades 5-8, all students should develop an understanding of

• Structure of the earth system	X		X			X	X	X						
• Earth's history							X							
• Earth in the solar system							X							

**NSES Content Standard D: Earth and Space Science** As a result of their activities in grades 9-12, all students should develop an understanding of

• Energy in the earth system		X						X				X	X	X
• Geochemical cycles														
• Origin and evolution of the earth system														
• Origin and evolution of the universe														

**NSES Content Standard E: Science and Technology** As a result of activities in grades K-4, all students should develop

• Abilities of technological design	X	X	X	X	X	X	X	X	X	X	X	X	X	X
• Understanding about science and technology														

• Abilities to distinguish between natural objects and objects made by humans	X	X	X								X				
---	---	---	---	--	--	--	--	--	--	--	---	--	--	--	--

**NSES Content Standard E: Science and Technology** As a result of activities in grades 5-8, all students should develop

• Abilities of technological design	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
• Understanding about science and technology															

**NSES Content Standard E: Science and Technology** As a result of activities in grades 9-12, all students should develop

• Abilities of technological design	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
• Understanding about science and technology															

**NSES Content Standard F: Science in Personal and Social Perspectives** As a result of activities in grades K-4, all students should develop understanding of

• Personal health					X		X				X	X			
• Characteristics and changes in populations		X	X												
• Types of resources	X	X	X			X		X			X				
• Changes in environments	X	X	X			X		X							
• Science and technology in local challenges															

<b>Key:</b> X = denotes a correlation in ideas and concepts in both standard and lessons	Life Science 101 Seeds	Life Science 102 Ecology	Life Science 103 Jr Naturalist	Life Science 104 Dissection	Life Science 105 Human Body	Earth Science 101 Rocks & Minerals	Earth Science 102 Astronomy	Earth Science 103 Weather	Chemistry 101 Polymers	Chemistry 102 Matter	Chemistry 103 Food Science	Physics 101 Newton's Laws	Physics 102 Electricity	Physics 103 Magnetism
---	---------------------------	-----------------------------	-----------------------------------	--------------------------------	--------------------------------	---------------------------------------	--------------------------------	------------------------------	---------------------------	-------------------------	-------------------------------	------------------------------	----------------------------	--------------------------

**NSES Content Standard F: Science in Personal and Social Perspectives**

As a result of activities in grades 5-8, all students should develop understanding of

• Personal health					X						X			
• Populations, resources, and environments	X	X	X											
• Natural hazards		X	X					X						
• Risks and benefits		X	X					X			X		X	
• Science and technology in society		X												

**NSES Content Standard F: Science in Personal and Social Perspectives**

As a result of activities in grades 9-12, all students should develop understanding of

• Personal and community health				X	X						X			
• Population growth	X	X	X											
• Natural resources	X	X	X			X								
• Environmental quality	X	X	X											

• Natural and human-induced hazards														
• Science and technology in local, national, and global challenges														

**NSES Content Standard G: History and Nature of Science** As a result of activities in grades K-4, all students should develop understanding of

• Science as a human endeavor														
-------------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**NSES Content Standard G: History and Nature of Science** As a result of activities in grades 5-8, all students should develop understanding of

• Science as a human endeavor			X				X			X		X	X	
• Nature of science	X	X	X		X	X	X	X	X	X	X	X	X	X
• History of Science							X			X		X	X	

**NSES Content Standard G: History and Nature of Science** As a result of activities in grades 9-12, all students should develop understanding of

• Science as a human endeavor			X				X			X		X	X	
• Nature of scientific knowledge														
• Historical perspectives														

<p><b>Key:</b>  <b>X</b> = denotes a correlation in ideas and concepts in both standard and lessons</p>	<p>Life Science 101 Seeds</p>	<p>Life Science 102 Ecology</p>	<p>Life Science 103 Jr Naturalist</p>	<p>Life Science 104 Dissection</p>	<p>Life Science 105 Human Body</p>	<p>Earth Science 101 Rocks &amp; Minerals</p>	<p>Earth Science 102 Astronomy</p>	<p>Earth Science 103 Weather</p>	<p>Chemistry 101 Polymers</p>	<p>Chemistry 102 Matter</p>	<p>Chemistry 103 Food Science</p>	<p>Physics 101 Newton's Laws</p>	<p>Physics 102 Electricity</p>	<p>Physics 103 Magnetism</p>
---	-----------------------------------	-------------------------------------	---	--	--	---	--	--------------------------------------	-----------------------------------	---------------------------------	---------------------------------------	--------------------------------------	------------------------------------	----------------------------------