

**Core High School Nature of Science  
Standards, Supporting Skills, Assessments, and Resources**

**Indicator 1: Understand the nature and origin of scientific knowledge.**

<b>Bloom's Taxonomy Level</b>	<b>Standard</b>	<b>Supporting Skills</b>	<b>Assessments</b>	<b>Resources</b>
(Evaluation)	<p><b>9-12.N.1.1. Students are able to evaluate a scientific discovery to determine and describe how societal, cultural, and personal beliefs influence scientific investigations and interpretations.</b></p> <p><b>Examples:</b> telescope, birth control pill, penicillin, electricity</p> <ul style="list-style-type: none"> <li>• Recognize scientific knowledge is not merely a set of static facts but is dynamic and affords the best current explanations.</li> </ul> <p>Examples: spontaneous generation, relativity, geologic time</p>			

	<ul style="list-style-type: none"> <li>• Discuss how progress in science can be affected by social issues.</li> </ul>			
(Synthesis)	<p><b>9-12.N.1.2. Students are able to describe the role of observation and evidence in the development and modification of hypotheses, theories, and laws.</b></p> <ul style="list-style-type: none"> <li>• Research, communicate, and support a scientific argument.</li> <li>• Recognize and analyze alternative explanations and models.</li> <li>• Evaluate the scientific accuracy of</li> </ul>			

	information relevant to a specific issue (pseudo-science).			
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**Indicator 2: Apply the skills necessary to conduct scientific investigations.**

<b>Bloom's Taxonomy Level</b>	<b>Standard, Supporting Skills, and Examples</b>
(Synthesis)	<p><b>9-12.N.2.1. Students are able to apply science process skills to design and conduct student investigations.</b></p> <ul style="list-style-type: none"><li>• Identify the questions and concepts to guide the development of hypotheses.</li><li>• Analyze primary sources of information to guide the development of the procedure.</li><li>• Select and use appropriate instruments to extend observations and measurements.</li><li>• Revise explanations and models based on evidence and logic.</li><li>• Use technology and mathematic skills to enhance investigations, communicate results, and defend conclusions.</li></ul> <p>Examples:</p> <p>Computer-based data collection</p> <p>Graphical analysis and representation</p> <p>Use appropriate technology to display data (i.e. spreadsheets, PowerPoint, web).</p>

(Application)	<p><b>9-12.N.2.2. Students are able to practice safe and effective laboratory techniques.</b></p> <ul style="list-style-type: none"><li>• Handle hazardous materials properly.</li><li>• Use safety equipment correctly.</li><li>• Practice emergency procedure.</li><li>• Wear appropriate attire.</li><li>• Practice safe behaviors.</li></ul>
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**Core High School Nature of Science  
Performance Descriptors**

<b>Advanced</b>	<p><b>High school students performing at the advanced level:</b></p> <ul style="list-style-type: none"> <li>• given a scientific discovery, evaluate how different societal, cultural, and personal beliefs influenced the investigation and its interpretation;</li> <li>• design and conduct an investigation using an alternative student- developed hypothesis.</li> </ul>
<b>Proficient</b>	<p><b>High school students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• given a scientific discovery narrative, determine and describe how societal, cultural, and personal beliefs influenced the investigation and its interpretation;</li> <li>• describe the role of observation and evidence in the development and modification of hypotheses, theories, and laws; then apply science process skills to design and conduct student investigations.</li> </ul>
<b>Basic</b>	<p><b>High school students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• describe the role of observation in the development of hypotheses, theories, and laws and conduct student investigations;</li> <li>• given a scientific discovery narrative, identify the cultural and personal beliefs that influenced the investigation.</li> </ul>

**Core High School Nature of Science  
ELL Performance Descriptors**

<b>Proficient</b>	<p><b>High school ELL students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• describe the role of observation in the development of hypotheses;</li> </ul>
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	<ul style="list-style-type: none"> <li>• conduct student investigations.</li> </ul>
<b>Intermediate</b>	<p><b>High school ELL students performing at the intermediate level:</b></p> <ul style="list-style-type: none"> <li>• identify the role of observation in the development of hypotheses;</li> <li>• participate in student investigations with peers.</li> </ul>
<b>Basic</b>	<p><b>High school ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• use observations to collect data;</li> <li>• observe student investigations with peers;</li> <li>• respond correctly to yes or no questions on topics presented in class.</li> </ul>
<b>Emergent</b>	<p><b>High school ELL students performing at the emergent level:</b></p> <ul style="list-style-type: none"> <li>• use correct pronunciation of science words;</li> <li>• use non-verbal communication to express scientific ideas.</li> </ul>

<b>Pre-emergent</b>	<b>High school ELL students performing at the pre-emergent level:</b> <ul style="list-style-type: none"><li>• observe and model appropriate cultural and learning behaviors from peers and adults;</li><li>• listen to and observe comprehensible instruction and communicate understanding non-verbally.</li></ul>
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