

**Core High School Earth/Space Science  
Standards, Supporting Skills, and Examples**

**Indicator 1: Analyze the various structures and processes of the Earth system.**

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	<p><b>9-12.E.1.1. Students are able to explain how elements and compounds cycle between living and non-living systems.</b></p> <ul style="list-style-type: none"> <li>• Diagram and describe the N, C, O and H<sub>2</sub>O cycles.</li> <li>• Describe the importance of the N, C, O and H<sub>2</sub>O cycles to life on this planet.</li> </ul> <p>Examples: water cycle including evaporation, cloud formation, condensation.</p>
(Application)	<p><b>9-12.E.1.2. Students are able to describe how atmospheric chemistry may affect global climate.</b></p> <p><b>Examples:</b> Greenhouse Effect, ozone depletion, ocean's effects on weather</p>
(Analysis)	<p><b>9-12.E.1.3. Students are able to assess how human activity has changed the land, ocean, and atmosphere of Earth.</b></p> <p><b>Examples:</b> forest cover, chemical usage, farming, urban sprawl, grazing</p>

**Indicator 2: Analyze essential principles and ideas about the composition and structure of the universe.**

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	<p><b>9-12.E.2.1. Students are able to recognize how Newtonian mechanics can be applied to the study of the motions of the solar system.</b></p> <ul style="list-style-type: none"> <li>• Given a set of possible explanations of orbital motion (revolution), identify those that make use of gravitational forces and inertia.</li> </ul>

**Core High School Earth/Space 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>• predict the effect of an interruption in a given cycles;</li> <li>• predict how human activity may change the land, ocean, and atmosphere of Earth.</li> </ul>
<b>Proficient</b>	<p><b>High school students performing at the proficient level:</b></p> <ul style="list-style-type: none"> <li>• explain how H<sub>2</sub>O, N, C, and O cycle between living and non-living systems;</li> <li>• recognize how Newtonian mechanics can be applied to the study of the motions of the solar system;</li> <li>• describe how various factors may affect global climate;</li> <li>• explain how human activity changes the land, ocean, and atmosphere of Earth.</li> </ul>
<b>Basic</b>	<p><b>High school students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• given pictorial representations of the H<sub>2</sub>O and C cycles, explain how elements and compounds move between living and nonliving systems;</li> <li>• identify the forces that cause motion in the solar system;</li> <li>• describe one factor that may affect global climate;</li> <li>• give an example of human activity that changes the land, ocean, or atmosphere of Earth.</li> </ul>

**Core High School Earth/Space 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>• given a pictorial representation of the H<sub>2</sub>O and C cycle, explain how elements and compounds move between living and nonliving systems;</li> <li>• describe why the Earth rotates around the sun, the Moon rotates around the Earth, and why the Earth has tides;</li> <li>• describe one factor that may affect global climate;</li> <li>• give an example of human activity that changes the land, ocean, or atmosphere of Earth.</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>• given a pictorial representation of the H<sub>2</sub>O cycle, label transpiration, condensation, evaporation, run-off, and ground water;</li> <li>• identify the force of gravity;</li> <li>• identify factors that may affect global climate;</li> <li>• give an example of human activity that changes the land and ocean.</li> </ul>

<p style="text-align: center;"><b>Basic</b></p>	<p><b>High school ELL students performing at the basic level:</b></p> <ul style="list-style-type: none"> <li>• recognize a pictorial representation of the H<sub>2</sub>O cycle;</li> <li>• demonstrate how objects fall to the ground (ball, feather);</li> <li>• recognize factors that may affect global climate;</li> <li>• give an example of human activity that changes the land.</li> </ul>
<p style="text-align: center;"><b>Emergent</b></p>	<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>
<p style="text-align: center;"><b>Pre-emergent</b></p>	<p><b>High school ELL students performing at the pre-emergent level:</b></p> <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>