



## Unit 1 Environmental Systems

### High School Environmental Science

#### Unit Length and Description:

#### 6 Instructional Weeks

Students will make claims that a change to Earth's surface can cause other system changes and explore how system flow and energy variations result in changes in atmosphere and climate. They will also refine solutions to reduce human impact and illustrate relationships among systems. Students will also develop models to describe the cycling of carbon among the geospheres.

#### Science Standards:

- HS-ESS2-2** Analyze geoscience data to make a claim that a change to Earth's surface can create feedback that causes changes to other Earth's systems.
- HS-ESS2-4** Analyze and interpret data to explore how variations in flow of energy into/out of Earth's systems result in changes in atmosphere and climate.
- HS-ESS3-4** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
- HS-ESS3-6** Use a computational representation to illustrate relationships among Earth systems and how those relationships are being modified due to human activity
- HS-ESS2-6** Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere

#### Enduring Understandings- Unit Anchor Phenomenon:

A mass of glacier ice suddenly breaks away from a glacier and causes sea levels to rise. This phenomenon is known as ice calving.

#### Essential Questions- Reflective Summaries:

- How do human activities and an increase in Earth's global temperature contribute to the ice calving phenomenon? Provide evidence to support your claim.
- How does ice calving impact Earth's systems, weather, and atmospheric changes? Provide evidence to support your claim.
- How does ice calving and an increase in Earth's global temperatures impact organisms? Provide evidence to support your claim.
- How do human activities impact the cycling of carbon within Earth's biogeochemical cycles? Provide evidence to support your claim.

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|  | <ul style="list-style-type: none"><li>• How do scientists and/or engineers identify and develop technological solutions to identify and solve the impact of human activities on natural systems? Provide evidence to support your claim.</li></ul> |
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