Grade/Course Overview: The Environmental Science course is subdivided into several physical, life, and earth sciences Disciplinary Core Ideas (DCI's) as follows, 1. Energy, 2. Matter and Energy in Ecosystems, 3. Interdependent Relationships in Ecosystems, 4. Earth Systems, 5. Weather and Climate, 6. Human Sustainability, 7. Natural Selection and Evolution. These areas of study are addressed over the course of 8 subunits. Students are expected to develop an understanding of humanity's impacts and interactions with the environment while making sense of the physical and life science sciences. In this unit, students gain an overview of major topics which will be delved into greater depth throughout the year. The Performance expectations throughout this unit will help students construct knowledge of the course as they answer the following questions: How does humanity impact the environment? How has humanity's relationship and impact on the environment changed over time? What are the most pressing environmental issues of today? What role should humans play in protecting and using resources?

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<tr><th colspan="2">Unit 1: Foundations in Environmental Science</th></tr>
<tr><td colspan="2">Unit Summary
The interconnectedness ideas and phenomena in this course presents the challenge of needing to identify, understand, and refer to many different topics concomitantly, and consistently throughout the year. Therefore, this unit introduces major topics and ideas that will act as a foundation for rest of the curriculum. Students will first be introduced to 6 of the major environmental concerns, which include: global climate change, deforestation, overharvesting resources, pollution, invasive species, and loss of biodiversity. Greater depth of understanding for causes and effects of each concern will be gained throughout the year. Students will then be introduced to the concept of the Tragedy of the Commons and the depletion of shared resources due to human nature, a recurring theme throughout the curriculum. Students will then be introduced to connections of environmental science and economics, including resource availabilities' effect on supply and demand. Furthermore, students will be exposed to basic concepts of ecology which will be important in future topics on energy and human impacts on natural systems. Students will use models and analyze data to explain a mysterious case study of Yellowstone National Park, which will segue into the final lesson of the unit on evaluating environmental decisions. All human decisions, especially large-scale decisions, have impacts on the environment, pros and cons, risks and benefits, and a variety of stakeholders with as many different perspectives. Students will obtain, evaluate, and communicate information, as well as argue with evidence, the decisions to reintroduce wolves into Yellowstone National Park.

This unit is based on HS-ESS3-1, HS-ESS3-2, HS-ESS3-3 and HS-ETS1-1</td></tr>
<tr><td>Essential Questions:
What are the most important environmental issues today?
Why might human nature make caring for the environment difficult?
How is the environment and economics linked?
How living and nonliving factors connected in an ecosystem?</td><td>Enduring Understandings:
Some of the most important environmental concerns of today are loss of biodiversity, global warming, ocean acidification, overharvesting resources, deforestation, invasive species and pollution. These issues are intimately connected and affect one another in different ways.
Human nature tends to make people care more about personal gain and short-term profits over long-term stability and cooperation. This can and has led to Tragedies of the Commons, where shared resources are depleted too quickly.</td></tr>
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	● The environment is closely tied to economics in myriad ways. Nature provides all the resources that eventually become products and services that stabilize climate and provide life-giving resources like clean air and water. Additionally, environmental challenges provide engineering and business opportunities. ● Abiotic and biotic factors are intimately connected in ecosystems. These interactions can be described in food web models. When one part of an ecosystem is affect, many other parts can be affected as well.