HBHS Science Curriculum Trajectory

Course:

AP Environmental Science

Course Description:

This course provides students with an understanding of the concepts and principles required in preparation for the AP Environmental Science exam. The course provides students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them.

Units of study:

Earth Systems & Resources; Living World; Populations; Land & Water Use; Energy; Pollution; Impacts on the Environment & Human Health; Global Change

Course Standards: Students will be able to:

- Demonstrate the 4'C standards (creativity, communication, critical thinking, and collaboration)
- Use the scientific method, engineering practices and inquiry based learning and describe those findings in a lab report
- The processes that shape the earth and its resources
- Describe how matter is cycled among the living and non living components of an ecosystem Illustrate the conservation of matter using biogeochemical cycles
- Relationships between species that determine population size and interrelationships
- Define world food supplies and nutritional requirements
- Define energy, work, and how energy use has varied over time.
- Extraction, use and environmental impact of the three primary fossil fuels Generation of electrical power History and current status of nuclear power in the United States and the world
- Identify ways humans can impact and alter the stability of ecosystems, such as habitat destruction, pollution, and consumption of resources; and describe the potentially irreversible effects these changes can cause.
- Explain that disease in organisms can be caused by intrinsic failures of the system or infection by other organisms, and describe as well as provide examples of how some diseases are caused by: the breakdown in cellular function, congenital conditions, genetic disorders, malnutrition, and emotional health, including stress
- Identify ways humans can impact and alter the stability of ecosystems, such as habitat destruction, pollution, and consumption of resources; and describe the potentially irreversible effects these changes can cause