



Curriculum Summary

Seventh Grade – Environmental Education

Students should know and be able to demonstrate mastery in the following skills by the end of Seventh Grade:

- Ecology
 - Describe the relationships between biotic and abiotic components of an ecosystem.
 - Compare and contrast different biomes and their characteristics
 - Describe symbiotic and predator/prey relationships.
 - Explain biogeochemical cycles within an ecosystem.
 - Define basic features of the rock cycle. Describe the layers of the earth.
 - Differentiate among the mechanisms by which heat is transferred through the Earth's system.
 - Explain the flow of energy within an ecosystem.
 - Compare and contrast the flow of energy between organisms in different habitats.
 - Explain the concept of trophic levels.
 - Explain how biological diversity relates to the viability of ecosystems.
 - Compare and contrast monoculture with diverse ecosystems.
 - Explain how biological diversity relates to the ability of an ecosystem to adapt to change.
 - Explain how an adaptation is an inherited, structure, function, or behavior that helps an organism survive and reproduce.
 - Identify factors that contribute to change in natural and human-made systems.
 - Explain the processes of primary and secondary succession in a given ecosystem.
- Watersheds and Wetlands
 - Explain how water enters, moves through, and leaves a watershed.
 - Explain the concept of stream order.
 - Describe factors that affect the flow and water quality within a watershed.
 - Explain the primary functions of a wetland within a watershed.
 - Providing habitat, flood control, water purification.
 - Serving as buffer zones, wildlife propagation areas, and food and fiber systems.
 - Use appropriate tools and techniques to analyze a freshwater environment.
 - Interpret physical, chemical, and biological data as a means of assessing the environmental quality of a freshwater environment.
- Natural Resources
 - Explain how products are derived from natural resources.
 - Describe the process of converting raw materials to consumer goods.
 - Differentiate between nonrenewable and renewable resources.
 - Explain the distribution and management of natural resources.
 - Differentiate between resources uses: conservation, preservation and exploitation.
- Agriculture and Society
 - Describe how agricultural practices, the environment, and the availability of natural resources are related.
 - Describe the economic importance of agriculture to society.

- Agriculture and Society
 - Investigate resources, their relation to land use, and their impact on the food and fiber system.
 - Identify the positive and negative effects of technology used in agriculture and its effects on the food and fiber system and the environment over time.
- Humans and Environment
 - Describe how the development of civilization affects the use of natural resources.
 - Compare and contrast how people use natural resources in sustainable and non-sustainable ways throughout the world.
 - Describe the impact of pests in different geographic locations and techniques used to manage those pests.
 - Identify introduced species that are classified as pests in their new environments.
 - Research integrated pest management (IPM) practices.
 - Explain how human actions affect the health of the environment.
 - Identify residential and industrial sources of pollution and their effects on environmental health.
 - Describe the wastes derived from using resources, how the waste is managed, and the potential impact on the environment.
 - Describe how length and degree of exposure to pollutants may affect human health.
 - Identify diseases/conditions that have been associated with exposure to pollutants.

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