

Evolution and Ecology

Environmental Science Unit Plan

Suggested Academic Level: 11-12th grade or 100-level college course

Anticipated Time Required: 10 class periods, including chapter test

Previous Unit: Matter and Energy

Next Unit: Land Ecosystems

Vocabulary: Ecology, organism, population, community, ecosystem, biosphere, habitat, critical factor, optimal range, zone of physiologic stress, zone of intolerance, adaptations, evolution, natural selection, speciation, artificial selection, biodiversity, logistic growth, exponential growth, environmental resistance, overshoot, dieback, competition, symbiosis, mutualism, commensalism, parasitism.

Objectives:

1. Differentiate between each of the different levels of ecological organization.
2. Relate an organism's habitat with its range of tolerance and adaptations.
3. Describe how the process of natural selection can result in speciation.
4. Provide examples of ecological pressures that will cause natural selection to occur.
5. Explain the purpose of the scientific naming system.
6. Contrast logistic with exponential growth.
7. Explain the environmental factors that discourage exponential growth.
8. Compare each of the different types of relationships, including symbiosis.

Lesson Title	Description	Time	Resources
Introduction	Discuss the "Four Pests Campaign" in China and the resulting famine. Define the different levels of organization in ecology. Explain that this unit is only covering biotic factors.	25 minutes	Powerpoint Lecture
Range of Tolerance	Have students complete the range of tolerance worksheet. Discuss the results.	20 minutes	Range of Tolerance Worksheet
Natural Selection	Outline the theory of natural selection. Explain how ecological pressures must be present for natural selection to occur. Discuss the <i>PBS Evolution: Why Sex</i> video clips as	45 Minutes	

Module 1populations Environmental Science Answer Key

Jin-Ying Zhang



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web the following sections show the methods used to calculate flat patterns for brake bent or die formed sheet metal parts the later sections describe the geometry and instructions for laying out sheet metal developments and transitions also

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