Unit 5 Biodiversity and Conservation

Content Area: **Science**
Course(s): **Environmental Science CP**
Time Period: **February**
Length: **0**
Status: **Published**

Transfer Skills

Enduring Understandings

Biodiversity usually refers to the number of different species in a given area

Many scientists are now concerned that loss of biodiversity is the most challenging environmental issue we face

Major conservation efforts now concentrate on protecting entire ecosystems rather than individual species

Essential Questions

What is biodiversity?

Why is it important to protect biodiversity?

Why is global biodiversity decreasing?

Content

Vocab:

Biodiversity, species diversity, genetic diversity, ecosystem diversity, extirpation, endangered species, threatened species, habitat fragmentation, poaching, Endangered Species act, captive breeding, Species Survival Plan, endemic

Skills

Differentiate the components of biodiversity

Explain two ways in which biodiversity varies across groups or geography

Describe the economic benefits of biodiversity

Describe how biodiversity is monitored and explain current biodiversity trends

List the major causes of biodiversity loss

Explain legal actions nations can take to protect biodiversity

Explain the goal of Species Survival Plans

Describe three strategies for managing whole ecosystems and habitats

Resources

Standards

SCI.9-12.5.1.12	All students will understand that science is both a body of knowledge and an evidence-based, model-building enterprise that continually extends, refines, and revises knowledge. The four Science Practices strands encompass the knowledge and reasoning skills that students must acquire to be proficient in science.
SCI.9-12.5.1.12.A	Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.
SCI.9-12.5.1.12.A.1	Refine interrelationships among concepts and patterns of evidence found in different central scientific explanations.
SCI.9-12.5.1.12.B	Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.
SCI.9-12.5.1.12.B.2	Build, refine, and represent evidence-based models using mathematical, physical, and computational tools.
SCI.9-12.5.1.12.B.3	Revise predictions and explanations using evidence, and connect explanations/arguments to established scientific knowledge, models, and theories.
SCI.9-12.5.1.12.D	The growth of scientific knowledge involves critique and communication, which are social practices that are governed by a core set of values and norms.
SCI.9-12.5.1.12.D.2	Represent ideas using literal representations, such as graphs, tables, journals, concept maps, and diagrams.

SCI.9-12.5.3.12	All students will understand that life science principles are powerful conceptual tools for making sense of the complexity, diversity, and interconnectedness of life on Earth. Order in natural systems arises in accordance with rules that govern the physical world, and the order of natural systems can be modeled and predicted through the use of mathematics.
SCI.9-12.5.3.12.B	Food is required for energy and building cellular materials. Organisms in an ecosystem have different ways of obtaining food, and some organisms obtain their food directly from other organisms.
SCI.9-12.5.3.12.B.1	Cite evidence that the transfer and transformation of matter and energy links organisms to one another and to their physical setting.
SCI.9-12.5.3.12.B.4	Explain how environmental factors (such as temperature, light intensity, and the amount of water available) can affect photosynthesis as an energy storing process.
SCI.9-12.5.3.12.B.5	Investigate and describe the complementary relationship (cycling of matter and flow of energy) between photosynthesis and cellular respiration.
SCI.9-12.5.3.12.C	All animals and most plants depend on both other organisms and their environment to meet their basic needs.
SCI.9-12.5.3.12.C.1	Analyze the interrelationships and interdependencies among different organisms, and explain how these relationships contribute to the stability of the ecosystem.
SCI.9-12.5.3.12.C.2	Model how natural and human-made changes in the environment will affect individual organisms and the dynamics of populations.