

Unit 3: Interdependent Relationships in Ecosystems

Content Area: **Science**
Course(s): **Science 6**
Time Period: **December**
Length: **25 Days**
Status: **Published**

Standards

SCI.6-8.MS-ETS1-1	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
SCI.6-8.MS-ETS1-3	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
SCI.6-8.MS-LS2-4	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
SCI.6-8.MS-LS2-5	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Student Learning Objectives

SLO 1: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. [Clarification Statement: Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.](MS-LS2-4)

SLO 2: Evaluate competing design solutions for maintaining biodiversity and ecosystem services. * [Clarification Statement: Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.] (MS-LS2-5)

SLO 3: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.(MS-ETS1-1)

SLO 4: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.(MS-ETS1-3)

Essential Questions/ Enduring Understandings

Essential Questions

1. What happens to ecosystems when the environment changes?
2. If the honeybees died out how would that impact farmers?
3. Why is maintaining biodiversity in the rainforest so important?

Enduring Understandings

Students will understand how biotic and abiotic factors impact an ecosystem and its populations.

Students will understand that there are different methods and ideas on how to maintain biodiversity.

Students will understand that they must take into account the constraints of a problem when designing a solution.

Students will understand that they must analyze data from various tests to find the best characteristics when designing a solution.