Interdependent Relationships in Ecosystems

Content Area: **Science**
Course(s): **Science 6**
Time Period: **April**
Length: **5 weeks**
Status: **Published**

Interdependent Relationships in Ecosystems Overview

Over a 5 week period, students will study patterns of interactions among organisms within an ecosystem. They will consider biotic and abiotic factors in an ecosystem and the effects these factors have on a population. They will also construct explanations for the interactions in ecosystems and the scientific, economic, political, and social justifications used in making decisions about maintaining biodiversity in ecosystems.

Interdependent Relationships in Ecosystems Priority Standards

SCI.MS-LS2-4	Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
SCI.MS-LS2-5	Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Interdependent Relationships in Ecosystems Learning Goals

- Students will be able to evaluate different solutions designed to maintain biodiversity and ecosystem services.
- Students will be able to use empirical evidence to show that changes to biological components of an ecosystem will affect populations.
- Students will be able to use empirical evidence to show that changes to physical components of an ecosystem will affect populations.

Interdependent Relationships in Ecosystems Learning Targets

- Students will be able to create a design solution which could include water purification, nutrient recycling, or prevention of soil erosion that maintains biodiversity and ecosystem services.
- Students will be able to recognize patterns in data and make warranted inferences about how changes to a biological component in an ecosystem can affect the population.
- Students will be able to recognize patterns in data and make warranted inferences about how changes to a physical component in an ecosystems can affect the population

21st Century Themes

CAEP.9.2.8.B.1	Research careers within the 16 Career Clusters ® and determine attributes of career success.
CAEP.9.2.8.B.3	Evaluate communication, collaboration, and leadership skills that can be developed

through school, home, work, and extracurricular activities for use in a career.

Marzano Elements

- DQ 1-1 Providing Clear Learning Goals and Scales
- DQ 2-6 Identifying Critical Information
- DQ 3-14 Reviewing Content
- DQ 3-16 Using Homework
- DQ 3-19 Practicing Skills, Strategies, and Processes
- DQ 4-21 Organize Students for Cognitively Complex Tasks
- DQ 4-23 Providing Resources and Guidance

Differentiated Instruction

- Have individual students explain content understanding in their own words
- Use a variety of visual aids to help student understanding
- Use different teaching styles to introduce, explain, and reinforce content understanding
- Use small groups to check for understanding.

Assessments

- Do Now Activities
- MS-LS2-4 Learning Scale
- MS-LS2-5 Learning Scale
- Teacher-created quizzes
- Teacher-created worksheets
- Unit Benchmark Assessment

Learning Plan

Week Topic	Lesson Activities	Standard/Learning Goal/Target	Materials
Wk 1 - Interdependent Relationships in Ecosystems Wk 2	Do Now Activities (Warm up) Review Power Point slides from online information together. Assign *Readworks* packet: www.readworks.org/passages/worldwide-	**Standard:** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	Power Point slides Chrome book *Readworks*

		loss-bees-growing-concern		*Packet*
		Assign student worksheets.	**Learning Goals:** Students will be able to use empirical evidence to show that changes to physical components of an ecosystem will affect populations. **Learning Targets:** Students will be able to recognize patterns in data and make warranted inferences about how changes to a physical component in an ecosystems can affect the population.	Worksheets
Wk 2 - Wk 3	Interdependent Relationships in Ecosystems	Do Now Activities (Warm up) Review Power Point slides from online information together. Show video from You Tube on biological changes in an ecosystem. www.youtube.com/watch?v=kKc48kCfv5k Assign *Readworks* packet: www.readworks.org/passages/hook-line-and-sinker	**Standard:** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. **Learning Goals:** Students will be able to use empirical evidence to show that changes to biological components of an ecosystem will affect populations.	Power Point slides Chrome book Videos *Readworks* packet Worksheets

		Assign student worksheets.		
		Do Now Activities (Warm up) Review Power Point slides from online information together. Show video from You Tube on biodiversity: www.youtube.com/watch?v=GK_vRtHJZu4 Assign *Readworks* packet: http://www.readworks.org/passages/how-water-loss-affects-biodiversity Assign student worksheets.	**Learning Target:** Students will be able to recognize patterns in data and make warranted inferences about how changes to a biological component in an ecosystem can affect the population. **Standard:** Evaluate competing design solutions for maintaining biodeiversity and ecosystem services. **Learning Goal:** Students will be able to evaluate different solutions designed to maintain biodiversity and ecosystem services. **Learning Target:** Students will be able to create a design solution which could include water purification, nutrient recycling, or prevention of soil erosion that maintains biodiversity and ecosystem services.	Power Point slides Chrome book Youtube Video *Readworks*packet Worksheets
Wk 3 - Wk 4	Interdependent Relationships in Ecosystems			
Wk 5	Interdependent Relationships in Ecosystems	Do Now Activities (Warm up) Complete a list of review topics in preparation for unit assessment.	**Standards:** All unit standards listed above in weeks 1-4.	Power Point slides Chrome book

Complete an open-note quiz.	**Learning Goals:**	Open-note quiz
Complete a standards review worksheet.	Students will review and complete multiple assignments in order to be able to pass a standards-basesd assessment.	Standards-based assessment
Complete a Unit learning scale on.		List of Review Topics
Complete a standards-based assessment.	**Learning Target:**	
	Students will complete all assignments during the review period and work collaboratively with the teacher to prepare themselves to pass a standards-based assessment.	Learning Scales: MS-LS2-4 MS-LS2-5

Materials & Resources

- Scientific hands-on materials
- Teacher choice of You Tube videos on the conten
- Teacher-created Google Document
- Teacher-created Google Slides