Unit #3

Content Area:	Science
Course(s):	Science 5
Time Period:	June
Length:	Trimester #3
Status:	Published

Unit Overview

Ecosystems & The Food Web

In this unit, students explore how organisms depend on one another and form an interconnected ecosystem. Students investigate food chains, food webs, and the importance of producers, consumers, and decomposers.

Priority Standards

SCI.5-PS3-1	Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
SCI.5-LS1-1	Support an argument that plants get the materials they need for growth chiefly from air and water.
SCI.5-LS2-1	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
SCI.5-ESS3-1	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources, environment, and address climate change issues.

Unit Learning Goals

-I can develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

-I can support an argument that plants get the materials they need for growth chiefly from air and water.

-I can obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

-I can use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

-I can define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

-I can generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem

-I can plan and carry out fair tests in which variables are controlled and failure points are considered to

identify aspects of a model or prototype that can be improved..

Essential Questions

Why would a hawk move to New York City?What do plants eat?Where do fallen leaves go?Do worms really eat dirt?Why do you have to clean a fish take but not a pond?How can we protect Earth's environments?Why did the dinosaurs go extinct?

Materials and Resources

Mystery Science

Genius Generation

Student Readers (English & Spanish Carolina Science Kits)

Photosynthesis Video: https://www.youtube.com/watch?v=EstPeBt9CyU

Photosynthesis "Four Ingredients" informational Packet (TpT activity)

Ecosystem Video: https://www.youtube.com/watch?v=CZhE2p46vJk Google Classroom,

"What's for Dinner Activity" Colored Pencils.Markers.Crayons

Game: http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/foodchain.htm https://betterlesson.com/lesson/631349/producers-consumers-decomposers# https://betterlesson.com/lesson/633027/food-webs

Ecosystem Video: https://www.youtube.com/watch?v=CZhE2p46vJk

Google Classroom, "This Tangled Web We Weave" Activity, Markers/Colored Pencils

Keystone Species Video: https://www.youtube.com/watch?v=JGcIp4YEKrc&t=152s

Yellowstone Wolves https://www.yellowstonepark.com/things-to-do/wildlife/wolves

Unit Assessments

Mystery Science Assessment for each lesson

Mystery Science Unit Assessment

Learning Plan (Skills and Activities)

Ti		Priority	Learnin	
me	Lesson	Standar	g	Lessons/Activities
		d	Targets	
		5-LS2-	I can	
		1.	develop	Day #1: Intro Video
		Develop	a model	
		a model	to	Day #2 & #3-Eat or Be Eaten lab
		to	describe	
	Lesson 1	describe	the	Day #4: Video Edpuzzle (Food chains, transfer of energy, and Food Webs)
	Why	the	movem	
We	would a	movem	ent of	https://edpuzzle.com/media/6282f/da80c0ff4105c501c3
ek	hawk	ent of	matter	Day #5. Test
1	move to	matter	among	Day #5. Test
	New	nlants	plants,	Test: https://docs.google.com/presentation/d/1tVNVK-
	City?	animals	ammais	R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing
		decomp	, , decomn	
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		and the	and the	https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv
		environ	environ	91gDurYRPdynaUmws/edit?usp=sharing
		ment.	ment.	
		5.LS1-1	I can	Day 1. Show wides and merries of lab (Sten at alide antitled 10 of 1()
		Support	support	Day 1: Show video and preview of lab (Stop at slide entitled 10 of 16)
	Lesson	an	an	Day #2. Teacher led lab Ensure every every student has their own worksheet
	2:	argume	argume	
Wa	What do	nt that	nt that	Day #3: Video
alz	what uo	plants	plants	
ек 2	eat?	get the	get the	Day #4: NJSLA Assessment plants not mystery science.
		material	material	
		s they	s they	Test: <u>https://docs.google.com/presentation/d/ItVNVK-</u>
		need for	need for	<u>R8qL/AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing</u>
		growth	growth	Kay: https://doog.google.com/prosentation/d/1pT7uPaD0uEfOuLy1y2U4V2D
		chiefly	chiefly	key. <u>https://docs.google.com/presentation/d/1111/uBgD0uE10uLy1v304v3P</u>

from air from air RLv91gDurYRPdynaUmws/edit?usp=sharing and and water. water. 5-LS2-1. I can Develop develop a model a model Day 1: Introduction Video & Discussion to to describe describe Day 2: Lab & Lab Paper Lesson the We ^{3:} the movem movem Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to ek ent of Where ent of go along with lesson 3 matter do fallen matter among among Day 5 Test: leaves plants, go? plants, animals Test: https://docs.google.com/presentation/d/ltVNVKanimals, decomp R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing osers, decomp and the Key:https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3P osers, environ RLv91gDurYRPdynaUmws/edit?usp=sharing and the ment. environ ment. 5-LS2-1. Develop I can a model develop a model Day 1: Introduction Video & Discussion to describe to describe Day 2: Lab & Lab Paper Lesson the movem the 4: Do Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to worms ent of movem go along with lesson We really eat matter ent of dirt? among matter ek Day 5 among plants, 4 animals, plants, https://docs.google.com/presentation/d/1tVNVK-Test: decomp animals R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing osers, and the decomp Key: environ osers, https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRL ment. and the v91gDurYRPdynaUmws/edit?usp=sharing environ ment.

We Lesson 5-LS2- I can ek 5: Why 1. develop Day 1: Introduction Video & Discussion 5 do you Develop a model

Day 2:Part 1 Only: Pond Ecosystem Game Part 2 of the game is too difficult have to a model to describe clean a to Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to fish tank describe the movem go along with lesson but not a the pond? movem ent of Day 5 matter ent of matter among Test: https://docs.google.com/presentation/d/1tVNVKplants, among R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing animals plants, animals, , Key: decomp decomp https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLv1v3U4V3PRL osers, osers, v91gDurYRPdynaUmws/edit?usp=sharing and the and the environ environ ment. ment. 5-ESS3-1. Obtain I can obtain and combin and combin e informa e Day 1: Introduction Video & Discussion informa tion tion about Day 2: Bloom Buster Game about ways Lesson individu ways Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to 6: How individu go along with lesson al We can we commu al commu Day 5 ek protect nities Earth's nities 6 use https://docs.google.com/presentation/d/1tVNVK-Test: environ science use ideas to science <u>R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp</u>=sharing ments? protect ideas to Key: the protect https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRL Earth's the v91gDurYRPdynaUmws/edit?usp=sharing resource Earth's s and resourc environ es and environ ment. ment.

We ek 7	Lesson		I can use	Day 1: Introduction Video & Discussion
	7: Why 5-PS3- did the 1. Use	models to	Day 2: Create a Dinosaur Food Web	
	dinosaur s go extinct?	models to describe that	describe that energy in	Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson

	energy in animals ' food (used for body repair, growth, motion, and to maintai n body warmth) was once energy from the sun.	animals ' food (used for body repair, growth, motion, and to maintai n body warmth) was once energy from the sun.	Day 5 Test: <u>https://docs.google.com/presentation/d/1tVNVK-</u> <u>R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing</u> Key: <u>https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PR</u> <u>Lv91gDurYRPdynaUmws/edit?usp=sharing</u>
We Review ek & Unit 8 Test	5-PS3-1 5- ESS3-1 5-LS2- 1 5.LS1-1	I can use models to describe that energy in animals ' food (used for body repair, growth, motion, and to maintai n body warmth) was once energy from the sun.	Genius Generation: 5-LS1-1 How do we use food 5-LS2-1 Food Webs 5-PS3-1 How do we use food: Food Webs 5-ESS3-1 Water Quality & Distribution Test: <u>https://docs.google.com/presentation/d/1tVNVK-</u> R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PR Lv91gDurYRPdynaUmws/edit?usp=sharing

I can obtain and combin e informa tion about ways individu al commu nities use science ideas to protect the Earth's resourc es and environ ment. I can develop a model to describe the movem ent of matter among plants, animals , decomp osers, and the environ ment. I can support an argume nt that plants

			get the material s they need for growth chiefly from air and water.	
We ek 9	How can you save a town from a hurrican e?	3-5- ETS1-1. Define a simple design problem reflectin g a need or a want that includes specifie d criteria for success and constrai nts on material s, time, or cost.	I can define a simple design problem reflectin g a need or a want that includes specifie d criteria for success and constrai nts on material s, time, or cost.	Day 1: Introduction Video & Discussion Day 2 & 3: Save Beachtown Project Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson Day 5: Genius Generation Renewable & NonRenewable Resources
		3-5- ETS1-2. Generat e and compar e multiple possible solution s to a problem based on how well each is	I can generat e and compar e multiple possible solution s to a problem based on how well each is likely to meet the	

likely to criteria meet and the constrai criteria nts of the and constrai problem nts of the problem I can plan and carry 3-5out fair ETS1-3. tests in Plan which and variable carry s are out fair controll tests in ed and which failure variable points s are are controll conside ed and red to failure identify points aspects are of a consider model ed to or identify prototy aspects pe that of a can be model improve or d. prototyp e that can be improve d.

Strategies for Multilingual Learners

- Continue practicing vocabulary
- Choice of test format (multiple-choice, essay, true-false)
- Vary test formats

- Read directions to student
- Provide study guides prior to tests
- Clarify test directions, read test questions
- Read test passages aloud (for comprehension assessment)

Strategies for Students in Need of Invention

- Additional time on assignments
- Review of directions
- Review sessions
- Provide notes
- Support auditory presentation with visuals
- Work in progress check
- Tiered assessment
- Choice of test format (multiple-choice, essay, true-false)
- Read directions to student
- Highlight directions and key words
- Provide opportunities for cooperative partner work

Strategies for Enrichment

- Higher-level cooperative learning activities
- Provide higher-order questioning and discussion opportunities
- Tiered assessments
- Provide texts at higher reading level
- Extension activities

Interdisciplinary Connections

ELA.L.WF.5.2 Demonstrate command of the convention of writing, including those listed under grade four foundation skills.

ELA.L.VL.5.2 Determine or clarify the meaning of unknown and multiple-meaning academic and domainspecific words and phases based on grade 5 reading and content, choosing flexibly from a range of strategies.

ELA.RI.CR.5.1 Quote accurately from an informational text when explaining what the text says explicitly and make relevant connections when drawing inferences from the text.

ELA.IW.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

ELA.SL.PE.5.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

5.DL.A.1 Understand how different visualizations can highlight different aspects of data. Ask questions and interpret data visualizations to describe and analyze patterns.

5.DL.A.2 Develop strategies to collect, organize and represent data of various types and from various sources. Communicate results digitally through a data visual (e.g. chart, storyboard, video representation).

5.DL.A.3 Collect and clean data to be analyzable (e.g., make sure each entry is formatted correctly, deal with missing or incomplete data).

5.DL.A.4 Using appropriate visualizations (i.e. double line plot, double bar graph), analyze data across samples.

5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

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MATH.5.G.A.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
ELA.SL.PE.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

21st Century Life & Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP11. Use technology to enhance productivity.
- CRP12. Work productively in teams while using cultural global competence.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.