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-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.
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-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.

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

Pass the Energy Activity page, Pass the Energy line graph Google Sheets (TpT Activity)

Unit Assessments

Mystery Science Assessment for each lesson

Mystery Science Unit Assessment

Learning Plan (Skills and Activities)

Time	Lesson	Priority Standard	Learning Targets	Lessons/Activities
Week 1	Lesson 1 Why would a hawk move to New York City?	5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	I can develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	Day #1: Intro Video Day #2 & #3-Eat or Be Eaten lab Day #4: Video Edpuzzle (Food chains, transfer of energy, and Food Webs) https://edpuzzle.com/media/6282f7da80c0ff4105c501c3 Day #5: Test Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing
Week 2	Lesson 2: What do plants eat?	5.LS1-1 Support an argument that plants get the materials they need for growth chiefly	I can support an argument that plants get the materials they need for growth chiefly	Day 1: Show video and preview of lab (Stop at slide entitled 10 of 16) Day #2: Teacher led lab Ensure every every student has their own worksheet Day #3: Video Day #4: NJSLA Assessment plants not mystery science. Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing

		from air and water.	from air and water.	Key:https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing
Week 3	Lesson 3: Where do fallen leaves go?	5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	I can develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	Day 1: Introduction Video & Discussion Day 2: Lab & Lab Paper Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson Day 5 Test: Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key:https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing
Week 4	Lesson 4: Do worms really eat dirt?	5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	I can develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	Day 1: Introduction Video & Discussion Day 2: Lab & Lab Paper Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson Day 5 Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing
Week 5	Lesson 5: Why do you have to clean a	5-LS2-1. Develop a model to	I can develop a model to describe	Day 1: Introduction Video & Discussion Day 2:Part 1 Only: Pond Ecosystem Game Part 2 of the game is too difficult Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to

	fish tank but not a pond?	describe the movement of matter among plants, animals, decomposers, and the environment.	the movement of matter among plants, animals, decomposers, and the environment.	go along with lesson Day 5 Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing
Week 6	Lesson 6: How can we protect Earth´s environments?	5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	I can obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	Day 1: Introduction Video & Discussion Day 2: Bloom Buster Game Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson Day 5 Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing
Week 7	Lesson 7: Why did the dinosaurs go extinct?	5-PS3-1. Use models to describe that energy in animals' food (used	I can use models to describe that energy in animals' food (used for body	Day 1: Introduction Video & Discussion Day 2: Create a Dinosaur Food Web Day 3 & 4: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson Day 5 Test: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PR

			for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	repair, growth, motion, and to maintain body warmth) was once energy from the sun.	Lv91gDurYRPdynaUmws/edit?usp=sharing
Week 8	Review & Unit 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 maintain 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: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing Key: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing	
			I can obtain and combine informa		

tion about ways individual communities use science ideas to protect the Earth's resources and environment.

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.		
Week 9	How can you save a town from a hurricane?	3-5-ETS1-1. 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 define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, 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. 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 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		

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3-5-ETS1-3. 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.	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..

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 domain-specific 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.

ELA.L.WF.5.2	Demonstrate command of the conventions of writing, including those listed under grade four foundational skills.
ELA.L.VL.5.2	Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases 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.W.IW.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
MATH.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.
MATH.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 presentation).
MATH.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).
MATH.5.DL.A.4	Using appropriate visualizations (i.e., double line plot, double bar graph), analyze data across samples.
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.