

Englewood Public School District

Science

Grade 3

Fourth Marking Period

Unit 6: Organisms and Environment

Overview: In this unit of study, students develop an understanding of the idea that when the environment changes, some organisms survive and reproduce, some move to new locations, some move into the transformed environment, and some die. The crosscutting concepts of cause and effect and the interdependence of science, engineering, and technology are called out as organizing concepts for these disciplinary core ideas. Students demonstrate grade-appropriate proficiency in engaging in argument from evidence. Students are also expected to use this practice to demonstrate understanding of the core ideas.

This unit is based on 3-LS2-1 and 3-LS4-3.

Time Frame: 15 days

Enduring Understandings:

For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. Organisms and their habitat make up a system in which the parts depend on each other.

Essential Questions:

In a particular habitat, why do some organisms survive well, some survive less well, and some not survive at all?

Standards	Topics and Objectives	Activities	Resources	Assessments
3-LS2-1: Construct an argument that some animals form groups that help members survive. 3-LS4-3: Construct an argument with evidence that in a particular habitat some organisms can survive well,	Topics Survival of different organisms Twenty-First Century Themes and Skills include: Environmental Literacy <ul style="list-style-type: none"> The Four C's Environmental Literacy Objectives	<u>An Animal That Can Survive:</u> Day 1: Students review adaptations and watch a short video. Students then discuss various adaptations that help different animals survive. Students then discuss what an organism would need to survive in a different	<u>An Animal That Can Survive:</u> <ul style="list-style-type: none"> Video Teacher Example Student Sample Sample Animal Notes Note Sheet <u>How Do Herds Help Animals:</u> <ul style="list-style-type: none"> Student note page Teacher Key Explanation of Writing Assignment <u>Videos:</u> <ul style="list-style-type: none"> Marmots 	Formative Assessments: <u>An Animal That Can Survive:</u> Note sheets on Animals <u>Animal Groups:</u> Student Claims and Evidence <u>How do Herds Help Animals:</u> Notes

some survive less well, and some cannot survive at all.

An Animal That can Survive:

Students will be able to use information about environments and adaptations in order to design an animal or plant that could survive in all.

Animal Groups:

Students will observe and act out a few group behaviors of non-herd animals and then will be able to discuss and write about possible benefits of living in a group.

How do Herds Help Animals:

Students will use digital media to observe animal herds, take notes only about what they observe, and write an expository paragraph.

Frogs:

Students will read expository text about amphibians in two different states, and then will collect and graph data about their different habitats.

environment.
Students then make a list of the different biomes on earth. They must list two adaptations necessary for survival in each biome. Students then create an organism based on those adaptations. (SL.3.4, RI.3.1, 9.2.4.A.1)

Day 2: Presentation day. Each student became a docent, and their job was to teach about their display and highlight how the organism is specifically designed for each biome. The "guests" rotated around, much like in a museum, to the displays. After 5-7 minutes, the guests became docents, and the docents were the guests. (MP.4)

Animal Groups:

Students watch a short video on bats hunting together. They discuss why this could be beneficial. Students then act out a short scene as banded mongoose. They

- Deer Herd
- Deer Migration
- Elk Herd
- Pronghorn Antelopes
- Springboks
- Elephant Herd
- Caribou Article

Frogs:

- Introduction to Amphibians – Student
- Introduction to Amphibians – Teacher
- Power Point
- Arizona Habitats
- North Carolina Habitats
- Graph – Blank
- Graph – Teacher Key

Additional Resources:

<https://kidsbiology.com/biology-basics/types-of-biomes/>
<https://www.storyjumper.com/book/index/15430892/Biomes-Book#page/2>

Animal Groups By Jill Esbaum

<https://www.kidscanpress.com/products/animals-do-too>

<https://www.kidscanpress.com/products/animals-work>

<https://www.kidscanpress.com/products/animal-talk>

A Walk in the Deciduous Forest (Biomes of North America)

Battle at Kruger: Water Buffalo Save Calf from Lions Video

Insects That Work Together

Musk Ox Save Calf from Wolves Video

Muskox Maneuvers

Frogs:

Notes
Bar Graph

Benchmark Assessment:
Exact Path

Summative Assessment:

An Animal That Can Survive:
Student presentations

How do Herds Help Animals:
Essay

Alternative Assessments:

Identify cause-and-effect relationships in order to explain change.

Self-assessments

Construct an argument with evidence (e.g., needs and characteristics of the organisms and habitats involved) that in a particular habitat, some organisms can survive well, some can survive less well, and some cannot survive at all.

discuss the pros and cons of living in a group. Students then make a claim and provide evidence to support their claim about animals living in groups. (W.3.2, RI.3.3, RI.3.2)

How do Herds Help

Animals:

Students watch a short video of all the ungulates in the world. Students then decide what would be benefits or drawbacks of living in a herd. Students think about what individual and group behaviors they saw. Students then watch a series of video clips and observe and notate on what they observe. Students then will write a paragraph on the groups incorporating their new information. (W.3.1, W.3.2)

Frogs:

Students begin by answering this question “If frogs and toads need water, why do they want to live in the desert?” They then

[A Walk in the Desert \(Biomes of North America\)](#)

[A Walk in the Rain Forest \(Biomes of North America\)](#)

[A Walk in the Prairie \(Biomes of North America\)](#)

[A Walk in the Tundra \(Biomes of North America\)](#)

[A Walk in the Boreal Forest \(Biomes of North America\)](#)

[A Journey into the Ocean \(Biomes of North America\)](#)

[Journey Into an Estuary \(Biomes of North America\)](#)

<https://www.aza.org/frogwatch-usa-north-carolina>

Conduct interviews
Ongoing portfolios
Rubrics
Essays
Practice
Presentations

share their answers with a partner. Students then look at different information on frogs from Arizona and North Carolina. Students then gather and organize data about frogs and their water needs in both states. Students then construct a double bar graph with their information.
(8.1.5.A.1, 6.1.4.B.5)

Accommodations and Modifications:

Students with special needs: Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered.

ELL/ESL students: Students will be supported according to the recommendations for “can do’s” as outlined by WIDA – https://www.wida.us/standards/CAN_DOs/

This particular unit has limited language barriers due to the physical nature of the curriculum.

Students at risk of school failure: Formative and summative data will be used to monitor student success at first signs of failure student work will be reviewed to determine support. This may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations. More time and will be made available with a certified instructor to aid students in reaching the standards.

Gifted and Talented Students: Students excelling in mastery of standards will be challenged with complex, high level challenges related to the complexity in planning and carrying out investigations and analyzing and interpreting data.

English Language Learners	Special Education	At-Risk	Gifted and Talented
<ul style="list-style-type: none"> Teacher asks students to repeat directions back Speak and display terminology 	<ul style="list-style-type: none"> Teachers may modify instructions by modeling what the student is expected to do 	<ul style="list-style-type: none"> Teachers may modify instructions by modeling what the student is expected to do 	<ul style="list-style-type: none"> Real world scenarios Curriculum compacting Inquiry-based instruction Independent study

- Teacher modeling
- Peer modeling
- Provide ELL students with multiple literacy strategies.
- Word walls
- Use peer readers
- Give page numbers to help the students find answers
- Provide a computer for written work
- Provide two sets of textbooks, one for home and one for school
- Provide visual aides
- Provide additional time to complete a task
- Use graphic organizers

- Utilize modifications & accommodations delineated in the student's IEP
- Work with paraprofessional
- Use multi-sensory teaching approaches.
- Work with a partner
- Provide concrete examples
- Restructure lesson using UDL principals (http://www.cast.org/our-work/about-udl.html#.VXmoXcfD_UA).
- Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

- Using visual demonstrations, illustrations, and models
- Give directions/instructions verbally and in simple written format. Oral prompts can be given.
- Peer Support
- Increase one on one time
- Instructions may be printed out in large print and hung up for the student to see during the time of the lesson.
- Review behavior expectations and make adjustments for personal space or other behaviors as needed.
- Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.
- Provide opportunities for students to connect with people of similar backgrounds (e.g. conversations via digital tool such as SKYPE, experts from the community helping with a project, journal articles, and biographies).

- Higher order thinking skills
- Adjusting the pace of lessons
- Interest based content
- Student Driven Instruction
- Engage students with a variety of Science and Engineering practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
- Use project-based science learning to connect science with observable phenomena.
- Structure the learning around explaining or solving a social or community-based issue.
- Collaborate with after-school programs or clubs to extend learning opportunities.

Interdisciplinary Connections:

ELA-NJSLS/ELA:

RI.3.1: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS2-1), (3-LS4-3)

RI.3.2: Determine the main idea of a text; recount the key details and explain how they support the main idea. (3-LS4-3)

RI.3.3: Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3-LS2-1),(3-LS4-3)

W.3.1: Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-LS2-1), (3-LS4-3)

W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (3-LS4-3)

SL.3.4: Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (3-LS4-3)

Mathematics:

MP.4: Model with mathematics. (3-LS2-1),(3-LS4-3)

Career Ready Practices:

CRP4: Communicate clearly and effectively and with reason.

CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

Integration of Technology Standards NJSLS 8:

8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

Integration of 21st Century Standards NJSLS 9:

9.2.4.A.1: Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.

Social Studies:

6.1.4.B.5: Describe how human interaction impacts the environment in New Jersey and the United States.

Key Vocabulary:

Behavior: the structures or adaptations that help an organism survive and thrive in its habitat

Carnivore: an animal that eats other animals for food

Grassland: a place with a lot of grass and often no trees

Habitat: the place or natural area where plants and animals live

Herbivore :an animal that eats plants for food

Survive: to stay alive

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Engaging in Argument from Evidence</p> <ul style="list-style-type: none"> • <u>Construct an argument with evidence, data, and/or a model. (3-LS2-1)</u> • <u>Construct an argument with evidence. (3-LS4-3)</u> 	<p>LS2.D: Social Interactions and Group Behavior</p> <ul style="list-style-type: none"> • <u>Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size (Note: Moved from K-2). (3-LS2-1)</u> <p>LS4.C: Adaptation</p> <ul style="list-style-type: none"> • For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3) 	<p>Cause and Effect</p> <ul style="list-style-type: none"> • <u>Cause and effect relationships are routinely identified and used to explain change. (3-LS2-1),(3-LS4-3)</u>

Englewood Public School District

Science

Grade 3

Fourth Marking Period

Unit 7: Using Evidence to Understand Change in Environments

Overview: In this unit of study, students develop an understanding of the types of organisms that lived long ago and also about the nature of their environments. Students develop an understanding of the idea that when the environment changes, some organisms survive and reproduce, some move to new locations, some move into the transformed environment, and some die. The crosscutting concepts of *systems and system models*; *scale, proportion, and quantity*; and *the influence of engineering, technology, and science on society and the natural world* are called out as organizing concepts for these disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *asking questions and defining problems*, *analyzing and interpreting data*, and *engaging in argument from evidence*. Students are also expected to use these practices to demonstrate understanding of the core ideas.

This unit is based on 3-LS4-1, 3-LS4-4, and 3-5-ETS1-1.

Time Frame: 15 days

Enduring Understandings:

Some kinds of plants and animals that once lived on Earth are no longer found anywhere.

Fossils provide evidence about the types of organisms that lived long ago, and also about the nature of their environments.

Populations live in a variety of habitats, and change in those habitats affects the organisms living there.

Essential Questions:

What do fossils tell us about the organisms and the environments in which they lived?

What happens to the plants and animals when the environment changes?

Standards	Topics and Objectives	Activities	Resources	Assessments
(3-LS4-1): Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.	Topics	<u>Fun With Fossils:</u> Students will review their knowledge on fossils and create their own fossils. Students will then look at a series of fossils and predict whether they are plant or animal	<u>Fun With Fossils:</u> <u>Multimedia Resources</u> <ul style="list-style-type: none"> • <u>Becoming a Fossil</u> QuickTime Video • <u>How a Dinosaur Became a Fossil</u> Flash Interactive • <u>Laetoli Footprints</u> QuickTime Video • <u>Fossils</u> Flash Image • <u>Fossils: An Ancient Sea in Indiana</u> Flash Interactive • <u>The Grand Canyon: Evidence of Earth's Past</u> QuickTime Video • <u>Types of Fossils</u> Flash Interactive 	Formative Assessments: <u>Fossil Records:</u> Student Notes <u>Endangered and Threatened Species:</u> Poster Graphic Organizers
(3-LS4-4):	Fossils Environmental Changes Twenty-First Century Themes and Skills include:			

<p>Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.*</p> <p>(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.</p>	<p>Environmental Literacy</p> <ul style="list-style-type: none"> • The Four C's • Environmental Literacy <p>Objectives</p> <p><u>Fun With Fossils:</u> Students will examine how fossils are formed and understand how they provide evidence of plants and animals that lived long ago as well as the environmental conditions at that time.</p> <p><u>Fossil Inferences:</u></p> <p>Students will use their knowledge about fossils to arrange fossil pictures in sequence from oldest to youngest.</p> <p><u>Fossil Records:</u> Students will identify and illustrate how fossil records are used in conjunction with geology.</p> <p><u>Endangered and Threatened Species:</u></p> <p>Students will be able to: 1) identify and describe some causes for extinction of animal species; and 2)</p>	<p>fossils. Students then view a short video on the Indiana Ancient Sea. Students take notes on what they see. They then look at fossils found in the Grand Canyon and make notes on the fossils found there. Students review their original predictions and make any necessary changes. In small groups, students are assigned a specific fossil scenario. They must decide what type of fossils would form, what characteristics would be observable, and what they could change in the environment to create better fossil remains. Students present their scenarios to the class.</p> <p>(3-LS4-1, 3-LS4-4, 9.2.4.A.1)</p> <p><u>Fossil Inferences:</u> In this activity, students begin a sequencing activity with familiar items—letters written on cards. Once they are able to manipulate the cards into the correct sequence,</p>	<p>Use these resources to create a simple assessment or video-based assignment with the Lesson Builder tool on PBS Learning Media.</p> <p><u>Materials</u> Internet access for each pair of students For each student:</p> <ul style="list-style-type: none"> • Paper plate • Plaster of Paris (enough to fill plate) • Natural object that can be used for making a fossil (Note: See description in Before the Lesson.) • Doll (optional) • Earth materials (optional) • Cardboard box (optional) <p><u>Fossil Inferences:</u></p> <ul style="list-style-type: none"> • Pencils • Colored Pencils • Drawing Paper, • Cardstock • Handouts: <ul style="list-style-type: none"> ◦ Nonsense Cards Set A, ◦ Fossils Cards Set B (1), ◦ Fossils Cards Set B (2), ◦ Stratigraphic Section for Set B, ◦ Fossil Map of Utah <p><u>Attachments</u></p> <ul style="list-style-type: none"> • Stratigraphic b.pdf • Fossil cards b2.pdf • Fossil cards b1.pdf • Nonsense cards a.pdf <p><u>Fun With Fossils:</u></p> <ul style="list-style-type: none"> • Fossil Presentation • Scenario Presentation <p><u>Fossil Interference:</u> Student Essay</p> <p><u>Fossil Records:</u> Student Notes</p>	<p>Benchmark Assessment: Exact Path</p> <p>Summative Assessments: <u>Fun With Fossils:</u> Fossil Presentation Scenario Presentation</p> <p><u>Fossil Interference:</u> Student Essay</p> <p><u>What's Going On?</u> Student Essay</p> <p>Pre/Post tests and quizzes</p> <p>Alternative Assessments: Analyze and interpret data from fossils (e.g., type, size, distributions of fossil organisms) to provide evidence of the organisms and the environments in which they lived long ago.</p> <p>Students generate measurement data using appropriate tools, such as rulers marked with halves and fourths of an inch, and show the data by making a line plot where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. Graphs, charts</p>
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define rare, threatened and endangered as they apply to animal populations

What's Going On?

Students will be able to make claims about the bat's population based on data in a graph they create.

they are asked to do a similar sequencing activity using fossil pictures printed on "rock layer" cards. Sequencing the rock layers will show students how paleontologists use fossils to give relative dates to rock strata. (9.2.4.A.1, RI.3.1, RI.3.2, W.3.1, W.3.2)

Fossil Records:

As a class, students explore different fossils and the fossil records. Students take notes in a teacher created notes page. Students will then compare the rings on a tree to the fossil record. (CRP8, RI.3.3)

Endangered and Threatened Species:

Students will review endangered and threatened species in NJ. Students will then choose an endangered species from NJ and create a poster for a classroom gallery walk. Students will focus on why it is endangered and what is being done, along

Endangered and Threatened Species: Poster

What's Going On?

- Student Essay
- [The Relative Time Scale](#)

Fossil Records:

- [Website](#)
- [Fossil Records Presentation](#)
- [Student Note Page](#)
- [Teacher Answer Key](#)

Endangered and Threatened Species: [NJ Endangered Species List](#)

What's Going On? [Reading piece](#)

Additional Texts:

What Are Fossils?

Fossils and Paleontology for kids: Facts, Photos and Fun

Let's Go Rock Collecting

<https://shop.grandcanyon.org/collections/books-for-kids>

A Little Brown Bat Story

<https://www.fantasticfunandlearning.com/bat-books-kids.html>

https://www.scholastic.com/teachers/search-results/?search=1&prefilter=&filters=teachers_ss_dp:book-resources%7C*&text=endangered%20animals

[Mass Environmental Change](#)

Students use content-specific print and digital sources such as books, articles, and other reliable media to observe and analyze fossils, and they use their observations to describe the types of organisms that lived in the past and characteristics of the environments in which they lived.

Checklists, Rubrics

Students will determine the main idea and key details and use this information as evidence to support their thinking.

Essay

Students will take notes as they read and observe and use their notes as they write opinion and/or informational/explanatory pieces that convey information and ideas about organisms, both past and present, and their environments.

Peer Review

Students should ask and answer questions to demonstrate understanding.

Students should cite evidence from their observations or from texts to support their thinking.

Students should use

with habitat and range. Students will then participate in a class scavenger hunt, while they participate in a gallery walk.
(CRP4, SL.3.4)

What's Going On?

Students read an informational piece on the struggle of the Brown Bat. Then they graph the information with a plot map using three different colors to represent each type of bat, and the combined population. Students then draft an essay on how they can help the Little Brown Bat and how bat houses may help.
(MP.2, MP.4, MP.5, 3.MD.B.3, W.3.8, 8.1.5.A.1, 6.1.4.B.9)

appropriate facts and relevant descriptive details as they report out, speaking clearly at an understandable pace.
Think Pair Share

Accommodations and Modifications:

Students with special needs: Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered.

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in overcoming developmental considerations. More time and will be made available with a certified instructor to aid students in reaching the standards.

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		backgrounds (e.g. conversations via digital tool such as SKYPE, experts from the community helping with a project, journal articles, and biographies).	
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Interdisciplinary Connections:

ELA-NJSLS/ELA:

RI.3.1: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS4-4)

RI.3.2: Determine the main idea of a text; recount the key details and explain how they support the main idea. (3-LS4-1), (3-LS4-4)

RI.3.3: Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3-LS4-1), (3-LS4-4)

W.3.1: Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-LS4-1), (3-LS4-4)

W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (3-LS4-1), (3-LS4-4)

W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-LS4-1)

SL.3.4: Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (3-LS4-4)

Mathematics:

MP.2: Reason abstractly and quantitatively. (3-LS4-1),(3-LS4-4), (3-5-ETS1-1)

MP.4: Model with mathematics. (3-LS4-1),(3-LS4-4), (3-5-ETS1-1)

MP.5: Use appropriate tools strategically. (3-LS4-1), (3-5-ETS1-1)

3.MD.B.3: Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. (3-LS4-2),(3-LS4-3)

3.MD.B.4: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. (3-LS4-1)

Career Ready Practices:

CRP4: Communicate clearly and effectively and with reason.

CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

Social Studies:

6.1.4.B.9: Relate advances in science and technology to environmental concerns, and to actions taken to address them.

Integration of Technology Standards NJSLS 8:

8.1.5.A.1: Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

Integration of 21st Century Standards NJSLS 9:

9.2.4.A.1: Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.

Key Vocabulary:

Fossil: Any remains, trace, or imprint of prehistoric animal or plant life preserved in the earth's crust

Sedimentary Rock: A layered rock formed by deposits of sediment.

Extinct: no longer existing

Species: a particular group of things or people that belong together or have some shared quality

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Analyzing and Interpreting Data</p> <ul style="list-style-type: none"> <u>Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS4-1)</u> <p>Engaging in Argument from Evidence</p> <ul style="list-style-type: none"> <u>Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-LS4-4)</u> <p>Asking Questions and Defining Problems</p> <ul style="list-style-type: none"> Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1) 	<p>LS4.A: Evidence of Common Ancestry and Diversity</p> <ul style="list-style-type: none"> <u>Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (3-LS4-1)</u> <u>Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (3-LS4-1)</u> <p>LS4.D: Biodiversity and Humans</p> <ul style="list-style-type: none"> <u>Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)</u> <p>LS2.C: Ecosystem Dynamics, Functioning, and Resilience</p> <ul style="list-style-type: none"> <u>When the environment changes in ways that affect a place's physical characteristics, temperature, or</u> 	<p>Scale, Proportion, and Quantity</p> <ul style="list-style-type: none"> <u>Observable phenomena exist from very short to very long time periods. (3-LS4-1)</u> <p>Systems and System Models</p> <ul style="list-style-type: none"> <u>A system can be described in terms of its components and their interactions. (3-LS4-4)</u> <p>-----</p> <p><i>Connections to Engineering, Technology, and Applications of Science</i></p> <p>Interdependence of Engineering, Technology, and Science on Society and the Natural World</p> <ul style="list-style-type: none"> <u>Knowledge of relevant scientific concepts and research findings is important in engineering. (3-LS4-4)</u>

	<p><u>availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die.</u>(secondary to 3-LS4-4)</p> <p>ETS1.A: Defining and Delimiting Engineering Problems</p> <ul style="list-style-type: none"> • Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (3-5-ETS1-1) 	<p>Influence of Science, Engineering, and Technology on Society and the Natural World</p> <ul style="list-style-type: none"> • People’s needs and wants change over time, as do their demands for new and improved technologies. (3-5-ETS1-1) <p><i>Connections to Nature of Science</i></p> <p>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</p> <ul style="list-style-type: none"> • Science assumes consistent patterns in natural systems. (3-LS4-1)
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