

Unit: 1 Environments and Living Things

Content Area: **Science**
Course(s): **Science - Grade 3**
Time Period: **8 weeks**
Length: **8 Weeks**
Status: **Published**

Unit Overview

Students learn about four different environments: hot desert, coral reef, temperate forest, and tropical rainforest. With a partner, they match organisms to the environments they would best survive in. They gather evidence to construct an explanation about the importance of living in groups for an animal's survival. Students examine pictures that show changes to environments. Then, in pairs, they create an act-it-out about one environmental change, and the rest of the class guesses which change they are demonstrating. Students examine pictures that show changes to environments. Then, in pairs, they create an act-it-out about one environmental change, and the rest of the class guesses which change they are demonstrating. Students act as paleontologists and uncover fossils of plants and animals that lived on Earth millions of years ago. They categorize the fossils according to their findings. Students look at pictures of dinosaur teeth. They use these pictures to predict what the dinosaur ate and present their findings to the class. Then they think about other features that can be used to learn about the environment a dinosaur lived in.

Transfer

Students will be able to independently use their learning to...

- Show how cause and effect relationships are routinely identified and used to explain change.
- Explain how a system can be described in terms of its components and their interactions.
- Construct an argument with evidence, data, and/or a model.
- 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.
- Observe that phenomena exist from very short to very long time periods.
- Analyze and interpret data to make sense of phenomena using logical reasoning

Meaning

Understandings

Students will understand that...

- All organisms need specific environments to live.
- Living in a group helps some animals survive.
- Environments change.
- Organisms have to change when their environments change.
- People can learn about extinct organisms by studying fossils.
- Fossils show us environments of long ago.

Essential Questions

Students will keep considering...

- Where do organisms live?
- How does living in a group help some animals survive?
- How do environments change?
- What happens to organisms in changing environments?
- How do people learn about extinct organisms?
- What do fossils show about environments of long ago?

Application of Knowledge and Skill

Students will know...

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What facts and basic concepts should students know and be able to recall?

- All organisms need specific environments to live.
- Living in a group helps some animals survive.
- Environments change.
- Organisms have to change when their environments change.
- People can learn about extinct organisms by studying fossils.
- Fossils show us environments of long ago.

Students will be skilled at...

Students will be skilled at...

- Engaging in argument from evidence
- Analyzing and interpreting data
-

Academic Vocabulary

bacteria

environment

organism

rainforest

prey

social animal

natural resource

species

adaptation

behavior

reproduce

endangered

extinct

fossil

infer

wetlands

Learning Goal 1 - Lessons 1, 3, 4

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

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.

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SCI.3-LS4-4

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.

SCI.3-LS4-3

Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Target 1 - Lesson 1

Identify different habitats and the characteristics of each habitat that make them suitable for different organisms.

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Target 2 - Lesson 3

Examine how changes in the environment affect the physical characteristics of a habitat.

- Examine how changes in the environment affect the physical characteristics of a habitat.

Target 3 - Lesson 4

Provide evidence that populations of organisms can change to adapt to their environment.

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Learning Goal 2 - Lesson 2

Construct an argument that some animals form groups that help members survive.

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SCI.3-LS2-1

Construct an argument that some animals form groups that help members survive.

Target 1

Being part of a group helps animals obtain food, defend themselves, and cope with changes.

- Being part of a group helps animals obtain food, defend themselves, and cope with changes.

Target 2

Some animals live alone to provide enough prey or protection from predators.

- Being part of a group helps animals obtain food, defend themselves, and cope with changes.

Learning Goal 3 - Lessons 5 & 6

Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

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SCI.3-LS4-1

Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

Target 1 - Lesson 5

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

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Target 2 - Lesson 5

Compare the types of fossil evidence and how they reveal how extinct organisms lived.

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Target 3 - Lesson 6

Conclude how fossils provide evidence about the types of organisms that lived long ago and about the nature of their environments.

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Formative Assessment and Performance Opportunities

- TCI Lesson Game: Students test their understanding of key concepts with an education game.
- TCI Interactive Tutorial: Students can work independently to check their understanding in a safe environment that provides instant feedback but is not graded.
- TCI Interactive Student Notebook: Students record their understanding of both the reading and activity. Review during the lesson to gauge student understanding.
- TCI Vocabulary Cards: Students check their understanding of key vocabulary terms with digital flip cards.

Summative Assessment

TCI Assessment: What Happens to Organisms in Changing Environments?

Teacher-made assessments

Accommodations/Modifications

- Provide Scripts for Videos
- Modify/Simplify the Investigation Procedure
- Support Group Work
- Reduce the Amount of Writing
- Support the Act-It-Outs
- Assign Act-It-Out Topics
- Allow Cue Cards
- Support the Process of Defining Criteria and Constraints
- Preteach the Types of Fossils

Unit Resources

- TCI online manual and student text books
- TCI Interactice Student Notebook
- TCI Vocabulary Cards
- TCI Teacher Material Kit
- TCI activity cards

21st Century Life and Careers

CAEP.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.
CAEP.9.2.4.A.2	Identify various life roles and civic and work - related activities in the school, home, and community.
CAEP.9.2.4.A.3	Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes.
CAEP.9.2.4.A.4	Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Interdisciplinary Connections

MA.K-12.2	Reason abstractly and quantitatively.
MA.K-12.3	Construct viable arguments and critique the reasoning of others.
MA.K-12.5	Use appropriate tools strategically.
LA.RI.3.1	Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LA.RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea.
LA.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.

MA.3.NBT	Number and Operations in Base Ten
LA.W.3.1	Write opinion pieces on topics or texts, supporting a point of view with reasons.
MA.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.
LA.W.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
MA.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.
LA.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.
LA.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.