



Grade K Science
Unit 3 Life Science
Topic 6 Environments - 34 days

Unit Overview - In this unit students will learn what plants and animals need to survive. In Topic 5, through investigations students will discover some ways that plants and animals obtain what they need to survive. Students will learn different ways plants and animals can grow and change. Students take this knowledge in **Topic 6** and connect the knowledge to environments. Students will learn about different environments that plants and animals live; explore different ways plants and animals change the environments in which they live; and learn about different ways that people can change the environments in order to get the resources they need. Lastly, students investigate the different things people can do to help protect the environment.

Topic Essential Question: What do plants and animals need to survive?

Lessons

- Topic Launch/Quest Kickoff
- Lesson 1 Where Plants and Animals Live
- Lesson 2 Plants and Animals Change the Environment
- Lesson 3 People Change the Environment
- Lesson 4 People Can Protect the Environment
- Topic Close –Assessment, Quest Findings

NYSSLS Performance Expectations (PE)

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. [Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.]

K-ESS3-3. Communicate solutions that will reduce the impact of humans on living organisms and non-living things in the local environment. * [Clarification Statement: Examples of human impact on the environment (land, water, air, plants, and animals) could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]

K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas, and grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.]

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Higher Order Thinking (HOTS)

Higher Order Thinking Skills (HOTS) will be identified within each topic plan. Kindergarten HOTS include:

- sequencing
- categorizing
- identifying patterns
- cause and effect
- researching
- brainstorming
- use of scientific method
- inferencing
- academic vocabulary

<p>Topic Opener PE: K-ESS2-2, K-ESS3-3 SEP: Developing and Using Models* Engaging in Argument from Evidence* Obtaining, Evaluating, and Communicating Information*</p> <p>DCI: ESS2.E – Biogeology ● Plants and animals can change their environment. CCC: Cause and Effect*</p> <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas Highlighted labs are important to the understanding of the instructional concepts in this lesson and must be completed during Science instructional time.</p> <ul style="list-style-type: none">● uConnect Lab – How does a plant make a change to the place where it lives?*● Quest Kickoff – Trails for All● Leveled Readers● STEM Engineering Reader● Science Song – Living Everywhere
<p>Lesson 1- Where Plants and Animals Live PE: K-ESS3-1 SEP: Developing and Using Models* DCI: ESS2.E – Biogeology ● Plants and animals can change their environment CCC: Cause and Effect*</p> <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective</p> <ul style="list-style-type: none">● Students will observe different places where plants and animals live. <p>Vocabulary</p> <ul style="list-style-type: none">● shelter● forest● plain● desert● ocean <p>Connect</p> <ul style="list-style-type: none">● TE/SB p. 192● Jumpstart Discovery <p>Investigate</p> <ul style="list-style-type: none">● TE/SB pp. 193-195● uInvestigate Lab – Who lives here?*● Video – Where Plants and Animals Live● Crosscutting Concepts – Toolbox – Cause and Effect*● Reading Check - Sequence* <p>Synthesize</p> <ul style="list-style-type: none">● TE/SB pp. 196-197● Interactivity – Desert Environments● Quest Connection● Quest Check-In – A Nature Walk <p>Demonstrate</p> <ul style="list-style-type: none">● TE/SB p.196● Lesson 1 Quiz

<p><u>Lesson 2 Plants and Animals Change the Environments</u> PE: K-ESS2-2, K-ESS3-1 SEP: Developing and Using Models* Engaging in Argument from Evidence* DCI: ESS2.E – Biogeology <ul style="list-style-type: none"> Plants and animals can change their environment ESS3.A – Natural Resources <ul style="list-style-type: none"> Living things need water, air, and resources from the land, and they live in places that have things they need. Humans use natural resources for everything they do. CCC: Systems and Systems Models* *Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective <ul style="list-style-type: none"> Students will observe the way that plants and animals change their environments. Vocabulary <ul style="list-style-type: none"> environment Connect <ul style="list-style-type: none"> TE/SB p. 198 Jumpstart Discovery* Investigate <ul style="list-style-type: none"> TE/SB pp. 199-202 Video – Plants and animals change their environments uInvestigate Lab – How do squirrels change the land* Reading Check – Sequence* Crosscutting Concepts – Toolbox – Systems in Nature* Synthesize <ul style="list-style-type: none"> TE/SB pp. 200-203 Interactivity – Living Things Affect the Environment Quest Connection Quest Check-In: Changes in Nature Demonstrate <ul style="list-style-type: none"> TE/SB p.202 Lesson 2 Quiz </p>
<p><u>Lesson 3 People Change the Environment</u> PE: K-ESS2-2, K-ESS3-1, K-ESS3-3 SEP: Developing and Using Models* DCI: ESS2.E – Biogeology <ul style="list-style-type: none"> Plants and animals can change their environment ESS3.C – Human Impacts on Earth Systems <ul style="list-style-type: none"> Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impact on the land, water, air, and other living things. *Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective <ul style="list-style-type: none"> Students observe ways that people change their environment. Vocabulary <ul style="list-style-type: none"> resources Connect <ul style="list-style-type: none"> TE/SB p. 204 Jumpstart Discovery* Investigate <ul style="list-style-type: none"> TE/SB pp. 205-206 Video – How People Change Their Environment uInvestigate Lab – How can you model changing the environment?* Synthesize <ul style="list-style-type: none"> TE/SB pp. 207-208 Interactivity – People Affect the Environment Quest Connection* Demonstrate <ul style="list-style-type: none"> TE/SB p.207 Lesson 3 Quiz Quest Check-In – How can people change the land?* </p>

<p><u>Lesson 4 – People Can Protect the Environment</u> PE: K-ESS2-2, K-ESS3-3, K-2ETS1-1 SEP: Cause and Effect* Systems and Systems Models* DCI: ESS2.E – Biogeology <ul style="list-style-type: none"> Plants and animals can change their environment ESS3.C – Human Impacts on Earth Systems <ul style="list-style-type: none"> Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impact on the land, water, air, and other living things. CCC: Cause and Effect* Systems and Systems Models* *Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective <ul style="list-style-type: none"> Students will tell how they can protect the environment. Vocabulary <ul style="list-style-type: none"> recycle reuse Connect <ul style="list-style-type: none"> TE/SB p. 210 Jumpstart Discovery Investigate <ul style="list-style-type: none"> TE/SB pp. 211-214 Video – How People Can Protect their Environment Investigate Lab – How can you make something useful?* Crosscutting Concepts – Toolbox: Cause and Effect* Synthesize <ul style="list-style-type: none"> TE/SB pp. 212-215; 216-217 Interactivity – Who is Helping Care for Earth?* Quest Connection Demonstrate <ul style="list-style-type: none"> TE/SB p.215-217 Lesson 4 Quiz Quest Check-In Lab– How can we save our trails?* </p>
<p><u>Topic Close</u> <ul style="list-style-type: none"> Assessment and Remediation TE/SE pp. 222-227 Quest Finding p.220 </p>	<p><u>Topic 6 Enrichment</u> Topic 6- Lesson 1 Enrichment - TE p.196 - This activity extends student understanding of the lesson by encouraging them to draw animal environments. Enrichment Skill- Brainstorming Topic 6- Lesson 2 Enrichment - TE p.202 - This activity extends student understanding of the lesson by encouraging students to read text about the Bowerbird and how they change their environment. Topic 6- Lesson 3 Enrichment - TE p. 207 - This activity extends student understanding of the lesson by encouraging them to show ways that people change their land by drawing. Enrichment Skill- Brainstorming Topic 6- Lesson 4 Enrichment - TE p. 215 - This activity extends student understanding of the lesson by encouraging them to read text about a scientist and answer questions. Academic vocabulary includes invent, dive, breathe. Enrichment Skill- Academic Vocabulary</p>

Cumulative Enrichment Project - Grade K - (Categorize, Patterns)

Page 1: Students will read a passage about animal needs, then draw something “you” need and a plant needs to live and grow.

Page 2: Students will sort the objects in the cards according to a pattern. They will then re-sort the cards looking at a different pattern. (cards on pp. 2-4)

Page 4: Students will use what they learned to place an x in the graphic organizer for each of the needs of the different living things. They will then look for patterns in the data and fill in the blanks to make sentences about animal needs.

Page 6: Students will cut out a set of object cards and categorize them according to the type of food it eats (plants, animals, plants and animals)

English Language Learners (ELL) Enhancements

To access [hyperlinked](#) material, you must be logged into your BPS Google Drive

Listening

- **[Cross- Linguistic Practices](#)**: Gives students opportunities to make connections between what they hear and their home language (For example, allow students to listen to a passage and identify cognates.)
- **[Activating Prior Knowledge](#)** Activating prior knowledge means both eliciting from students what they already know and building initial knowledge that they need in order to access upcoming content.
- **[Activating Prior Knowledge](#)**
- **[Visuals](#)** - GIFs, pictures- will assist students in understanding what they are listening to. Use **[visual thinking strategies](#)** to set the lens for learning.
- Video to review or introduce a topic – use **[closed captioning](#)** to help students see the words and pronunciations while they listen to the content.
- **[Word stretching / Vowel stretching](#)** when instructing allows student to listen closely to the pronunciation of the word.
- **[Performance Level Descriptors](#)** this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of listening Scroll for grade K.

Speaking

- **[Sentence Stems/Frames](#)** - to begin a sentence - such as *Evolution is...* or *I think that evolution is...*
- **[Academic Conversation Starters](#)**: Have a visual of a list of academic sentence starters that students can refer to in a discussion.
- **[Choral Reading](#)** - To build fluency, self-confidence and motivation with **[reading/speaking](#)**.
- Create **[movement](#)** to go with the word. Movement can be a motivating factor, as well as a kinesthetic tool for conceptualizing the rhythm and flow of fluent reading while triggering brain function for optimal learning.
- **[Performance Level Descriptors](#)** This document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of speaking. Scroll for grade K.

Reading

- Supplementary Text to help reinforce concepts.
- **[Visual Aids](#)** - Pictures or models to support vocabulary words and concepts
- Video to review or introduce a topic - use **[closed captioning](#)** to help students read along while they listen to the content.
- **[4 Square / Frayer models](#)** to help students gain a deeper understanding of vocabulary.
- **[Highlighting](#)** important text to assist students in answering questions after the reading.
- **[Chunking](#)**-Break reading of text into chunks or paragraphs
- **[Performance Level Descriptors](#)** this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of reading. Scroll for grade K.
- **[Vocabulary Morphology](#)**- Morphology relates to the segmenting of words into affixes (prefixes and suffixes) and roots or base words, and the origins of words. Understanding that words connected by meaning can be connected by spelling can be critical to expanding a student’s vocabulary

	<p><u>Instructional Accommodations (depending on the student’s needs)</u></p> <ul style="list-style-type: none"> ● Extended time for tests in class, projects and assignments ● Directions read. Broken down as necessary ● Model how to complete the activity in the lesson ● Oral simplification of directions or questions ● Translated version of test when available. Student may have both version English and native language version ● Use of approved bilingual glossaries from NYS in each subject
<p>Special Education Modifications Special Education students must have accommodations as per Individual Educational Plan (IEP)</p>	<p><u>Instructional</u></p> <ul style="list-style-type: none"> ● Pre-teach vocabulary ● Use picture vocabulary ● Scaffold Depth of Knowledge questions ● Provide copy of notes/notes in “cloze” form ● Use of Think, Pair, and Share strategy to help process information ● Scaffold written assignments with the use of graphic organizers ● Allow for multiple ways to respond (verbal, written, response board) ● Provide model of performance task ● Modify informational text to fit the needs of the students ● Provide a digital or paper interactive notebook ● Present complex tasks in multiple ways ● Provide mnemonic strategies for scientific concepts <p><u>Technology:</u></p> <ul style="list-style-type: none"> ● Audio reading of text ● Text to type functions ● Videos to clarify/visualize science concepts ● Record class lecture/discussions and make accessible to student ● Nearpod- interactive presentations of notes <p><u>In Class Assessments</u></p> <ul style="list-style-type: none"> ● Provide multiple options for projects ● Use of timer in class ● Break all complex tasks into chunks
<p>Step Up to Writing Step Up to Writing materials can be found in BPS Science K-12 Schoology Folder K Resources K Curriculum Materials SUTW materials</p>	<ul style="list-style-type: none"> ● Easy Two-Column Notes ● Breaking Down Definitions ● Paragraph Frame- What I Learned ● Performance Level Descriptors this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of writing. Scroll for grade K.

Grade K Unit 3 Life Science

Culturally and Linguistically Responsive Teaching (CLRT) in the Science Classroom	<ul style="list-style-type: none">• Materials, resources, and/or discussions address diverse cultural backgrounds and real-world applications• Artifacts (posters, charts, etc.) in the science classroom are representative of the cultures of the student population• All students are given an opportunity to engage in science discourse• Teacher demonstrates high expectations for all students
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