



Grade 2 Science
Unit 3 Life Science
Topic 5 Plants and Animals – 33 days

Unit Overview - Students will explore life cycles of plants and animals. Students will learn about other needs of plants, review parts of plants and learn how the parts help plants get things they need to live and grow. Students will learn about the needs of animals and how plants provide some of these needs. Additionally, students will learn how animals help plants reproduce. Students will then recognize that living organisms are found everywhere on Earth. Students will identify different land and water habitats and explain how the habitats provide needs for the living things and how the living things are adapted to obtain what they need from the habitat.

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

Lessons

- Topic Launch/Quest Kickoff
- Lesson 1 Animal and Plant Life Cycles
- Lesson 2 Plant Needs
- Lesson 3 Animal Needs
- Lesson 4 Animals Can Help Plants Reproduce
- Topic Close –Assessment, Quest Findings

NYSSLS Performance Expectations (PE)

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow. [Assessment Boundary: Assessment is limited to testing one variable at a time.]

2-LS2-2. Develop a simple model that illustrates how plants and animals depend on each other for survival.* [Clarification Statement: Examples could include animals dispersing seeds or pollinating plants, and plants providing food, shelter, and other materials for animals.]

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats. [Clarification Statement: Emphasis is on the diversity of living things in each of a variety of different habitats.] [Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.]

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.

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

Higher Order Thinking (HOTS)

Higher Order Thinking Skills (HOTS) will be identified within each topic plan. Grade 2 HOTS include:

- sequencing
- categorizing
- identifying patterns
- cause and effect
- researching
- brainstorming
- logic
- reasoning
- inferencing
- scientific method
- academic vocabulary

<p>Topic Opener PE: 2-LS2-1, 2-LS2-2, 2-LS4-1 SEP: Planning and Carrying Out Investigations* Analyzing and Interpreting Data* DCI: LS2.A: Interdependent Relationships in Ecosystems</p> <ul style="list-style-type: none"> Animals depend on plants or other animals for food. (NYSED) Plants depend on water, light and air to grow. (NYSED) Some plants depend on animals for pollination and for dispersal of seeds from one location to another. <p>LS4.D: Biodiversity and Humans</p> <ul style="list-style-type: none"> There are many different kinds of living things in any area, and they exist in different places on land and in water. <p>CCC: Structure and Function* *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"> <i>u</i>Connect Lab – How are plants and animals alike and different?* Quest Kickoff – Help Save the Giant Flower* Leveled Readers STEM Engineering Reader Science Song – Plants
<p><u>Lesson 1- Animal and Plant Life Cycles</u> PE: 2-LS4-1 SEP: Analyzing and Interpreting Data* Obtaining, Evaluating, and Communicating Information* DCI: LS4.D: Biodiversity and Humans</p> <ul style="list-style-type: none"> There are many different kinds of living things in any area, and they exist in different places on land and in water. <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective</p> <ul style="list-style-type: none"> Students will describe some plant and animal life cycles. <p>Vocabulary</p> <ul style="list-style-type: none"> plant animal life cycle <p>Connect</p> <ul style="list-style-type: none"> TE/SB p. 154 Jumpstart Discovery* <p>Investigate</p> <ul style="list-style-type: none"> TE/SB pp. 155-156 <i>u</i>Investigate Lab – What is inside a seed or a bulb?* Video – Plant and Animal Life Cycles Reading Check – Compare and Contrast* Quest Connection* <p>Synthesize</p> <ul style="list-style-type: none"> TE/SB pp. 157-161 Interactivity – Life cycles Visual Literacy* Quest Check-In – Cycle of Life* Literacy Toolbox – Compare and Contrast* <p>Demonstrate</p> <ul style="list-style-type: none"> TE/SB p.160 Lesson 1 Quiz

<p><u>Lesson 2 Plant Needs</u> PE: 2-LS2-1, 2-LS4-1 SEP: Planning and Carrying Out Investigations* Analyzing and Interpreting Data* DCI: LS2.A: Interdependent Relationships in Ecosystems</p> <ul style="list-style-type: none"> Animals depend on plants or other animals for food. (NYSED) Plants depend on water, light and air to grow. (NYSED) Some plants depend on animals for pollination and for dispersal of seeds from one location to another. <p>LS4.D: Biodiversity and Humans</p> <ul style="list-style-type: none"> There are many different kinds of living things in any area, and they exist in different places on land and in water. <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective</p> <ul style="list-style-type: none"> Students will explain that plants need sunlight, air, water, space, and nutrients. <p>Vocabulary</p> <ul style="list-style-type: none"> nutrient <p>Connect</p> <ul style="list-style-type: none"> TE/SB p. 162 Jumpstart Discovery <p>Investigate</p> <ul style="list-style-type: none"> TE/SB pp.163 Video – Plant Needs uInvestigate Lab – What do plants need to grow?* <p>Synthesize</p> <ul style="list-style-type: none"> TE/SB pp. 164-165 Interactivity – How Plant Parts Help Plants Quest Connection* Reading Check – Compare and Contrast* <p>Demonstrate</p> <ul style="list-style-type: none"> TE/SB p.165-166 Lesson 2 Quiz Quest Check-In Lab – How can you see the parts of a plant work? *
<p><u>Lesson 3 Animal Needs</u> PE: 2-LS2-2, 2-LS4-1 SEP: Analyzing and Interpreting Data* Obtaining, Evaluating, and Communicating Information* DCI: LS2.A: Interdependent Relationships in Ecosystems</p> <ul style="list-style-type: none"> Animals depend on plants or other animals for food. (NYSED) Plants depend on water, light and air to grow. (NYSED) Some plants depend on animals for pollination and for dispersal of seeds from one location to another. <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective</p> <ul style="list-style-type: none"> Students will explain that animals need food, oxygen, water, and shelter. <p>Vocabulary</p> <ul style="list-style-type: none"> shelter <p>Connect</p> <ul style="list-style-type: none"> TE/SB p. 168 Jumpstart Discovery <p>Investigate</p> <ul style="list-style-type: none"> TE/SB pp. 169-170 Video – Animal Needs uInvestigate Lab – What do animals need?* Quest Connection* <p>Synthesize</p> <ul style="list-style-type: none"> TE/SB pp. 171-172 Interactivity – Find Out What Animals Need Reading Check – Compare and Contrast* Math Toolbox – Subtract* Quest Check-In – Attracting Flies* <p>Demonstrate</p> <ul style="list-style-type: none"> TE/SB p.171 Lesson 3 Quiz

<p><u>Lesson 4 Animals Can Help Plants Reproduce</u> PE: 2-LS2-2, K-2-ETS1-2, K-2ETS1-3 SEP: Planning and Carrying Out Investigations* Developing and Using Models* Analyzing and Interpreting Data* DCI: LS2.A: Interdependent Relationships in Ecosystems</p> <ul style="list-style-type: none"> Animals depend on plants or other animals for food. (NYSED) Plants depend on water, light and air to grow. (NYSED) Some plants depend on animals for pollination and for dispersal of seeds from one location to another. <p>ETS1.B – Developing Possible Solutions</p> <ul style="list-style-type: none"> Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. <p>CCC – Structure and Function *Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective</p> <ul style="list-style-type: none"> Students will identify ways some animals can help plants reproduce. <p>Vocabulary</p> <ul style="list-style-type: none"> disperse pollination <p>Connect</p> <ul style="list-style-type: none"> TE/SB p. 174 Jumpstart Discovery <p>Investigate</p> <ul style="list-style-type: none"> TE/SB pp. 175-176 Video – Animals Can Help Plants Reproduce Investigate Lab – How can you model how animals spread seeds?* <p>Synthesize</p> <ul style="list-style-type: none"> TE/SB p. 177 Interactivity – How Seeds and Pollen are Dispersed Quest Connection* <p>Demonstrate</p> <ul style="list-style-type: none"> TE/SB p.177-170 Lesson 4 Quiz Quest Check-In Lab – What is pollination?*
<p><u>Topic Close</u></p> <ul style="list-style-type: none"> Assessment and Remediation TE/SE pp. 184-189 Quest Finding 182 	<p><u>Topic 5 Enrichment</u> Topic 5 - Lesson 1 Enrichment - TE p. 159 - This activity extends student understanding of the lesson by having students observe and answer questions about the life cycle of a dragonfly. Vocabulary includes nymph, egg, adult & dragonfly Enrichment Skill- Academic Vocabulary</p> <p>Topic 5- Lesson 2 Enrichment - TE p. 164 -This activity extends student understanding of the lesson by having students observe and answer questions about spore producing plants. Vocabulary includes moss, fern, spore & seeds. Enrichment Skill- Academic Vocabulary</p> <p>Topic 5- Lesson 3 Enrichment - TE p. 171- This activity extends student understanding of the lesson by having students read about ecotones. Enrichment Skill- Reasoning</p>

<p>English Language Learners (ELL) Enhancements</p> <p>To access hyperlinked material, you must be logged into your BPS Google Drive</p>	<p><u>Listening</u></p> <ul style="list-style-type: none"> ● <u>Cross- Linguistic Practices</u>: 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). ● <u>Activating Prior Knowledge</u> 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. ● <u>Activating Prior Knowledge</u> ● <u>Visuals</u> - GIFs, pictures- will assist students in understanding what they are listening to. Use <u>visual thinking strategies</u> to set the lens for learning. ● Video to review or introduce a topic – use <u>closed captioning</u> to help students see the words and pronunciations while they listen to the content. ● <u>Word stretching / Vowel stretching</u> when instructing allows student to listen closely to the pronunciation of the word. ● <u>Performance Level Descriptors</u> 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 2.
	<p><u>Speaking</u></p> <ul style="list-style-type: none"> ● <u>Sentence Stems/Frames</u> - to begin a sentence - such as <i>Evolution is...</i> or <i>I think that evolution is...</i> ● <u>Academic Conversation Starters</u>: Have a visual of a list of academic sentence starters that students can refer to in a discussion. ● <u>Choral Reading</u> - To build fluency, self-confidence and motivation with <u>reading/speaking</u> ● Create <u>movement</u> 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 ● <u>Performance Level Descriptors</u> 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 2.
	<p><u>Reading</u></p> <ul style="list-style-type: none"> ● Supplementary Text to help reinforce concepts. ● <u>Visual Aids</u> - Pictures or models to support vocabulary words and concepts ● Video to review or introduce a topic - use <u>closed captioning</u> to help students read along while they listen to the content. ● <u>4 Square / Frayer models</u> to help students gain a deeper understanding of vocabulary. ● <u>Highlighting</u> important text to assist students in answering questions after the reading. ● <u>Chunking</u>-Break reading of text into chunks or paragraphs ● <u>Performance Level Descriptors</u> 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 2. ● <u>Vocabulary Morphology</u>- 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 <u>approved bilingual glossaries</u> from NYS in each subject

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<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 <hr/> <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 <hr/> <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 Grade 2 Resources Grade 2 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 2.
<p>Culturally and Linguistically Responsive Teaching (CLRT) in the Science Classroom</p>	<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