



Grade 1 Science
Unit 3 Life Science
Topic 5 Living Things - 36 days

Unit Overview - Topic 5 will expand on students' knowledge of plants and animals. Students will discover how parts of a plant help a plant survive and how animal parts help animals survive. Students will use their senses to compare different environments. In Topic 6, students will learn about the life cycles of plants and animals, how young plants and animals are different from their parents, what animals need to live, and how parent's behavior helps their young survive.

Topic Essential Question: How do parts of plants and animals help them?

Lessons

- Topic Launch/Quest Kickoff
- Lesson 1 Plant Parts
- Lesson 2 Animal Parts
- Lesson 3 People Learn from Plant and Animal Parts
- Lesson 4 Where Plants and Animals Live
- Topic Close –Assessment, Quest Findings

NYSSLS Performance Expectations (PE)

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.* [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]

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.

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Higher Order Thinking (HOTS)

Higher Order Thinking Skills (HOTS) will be identified within each topic plan. Grade 1 HOTS include:

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

<p>Topic Opener PE: 1-LS1-1, K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3 SEP: Developing and Using Models* Analyzing and Interpreting Data* DCI: LS1.A – Structure and Function <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. LS1.D - Information Processing <ul style="list-style-type: none"> Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. 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"> uConnect Lab – How can you make a model of a plant?* Quest Kickoff – Nature Copycats Leveled Readers STEM Engineering Reader Science Song – Something Special
<p>Lesson 1- Plant Parts PE: 1-LS1-1, K-2 ETS1-2 SEP: Asking Questions and Defining Problems* Obtaining, Evaluating, and Communicating Information* DCI: LS1.A – Structure and Function <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. LS1.D - Information Processing <ul style="list-style-type: none"> Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. ETS1.B – Developing Possible Solutions <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 peoples. ETS1.C – Optimizing the Design Solution <ul style="list-style-type: none"> Because there is always more than one possible solution to a problem, it is useful to compare and test designs. CCC: Structure and Function* *Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective <ul style="list-style-type: none"> Students will identify the major parts of plants. Students will explain how plant parts help plants. Vocabulary <ul style="list-style-type: none"> root stem leaf Connect - TE/SB p. 148 <ul style="list-style-type: none"> Jumpstart Discovery Investigate - TE/SB pp. 149-150 <ul style="list-style-type: none"> uInvestigate Lab – What do the parts of a plant look like? * Video – Plant Parts Quest Connection Synthesize - TE/SB pp. 151 - 153 <ul style="list-style-type: none"> Interactivity – Plant Parts Reading Check – Compare and Contrast* Quest Check-In – Roots Help Plants Survive* Demonstrate - TE/SB p.152 <ul style="list-style-type: none"> Lesson 1 Quiz </p>

<p><u>Lesson 2 Animals Needs</u> PE: 1-LS1-1, K-ETS1-1, K-2-ETS1-2, K-2-ETS1-3 SEP: Planning and Carrying Out Investigations* Developing and Using Models* DCI: LS1.A - Structure and Function</p> <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. <p>LS1.D - Information Processing</p> <ul style="list-style-type: none"> Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. <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>ETS1.C - Optimizing the Design Solution</p> <ul style="list-style-type: none"> Because there is always more than one possible solution to a problem, it is useful to compare and test designs. <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 the major parts of animals. Students will explain how animal parts help animals. <p>Vocabulary</p> <ul style="list-style-type: none"> gills scales <p>Connect - TE/SB p. 154</p> <ul style="list-style-type: none"> Jumpstart Discovery <p>Investigate - TE/SB pp. 155-156</p> <ul style="list-style-type: none"> Video – Animal Parts uInvestigate Lab – How do whiskers help a cat?* Crosscutting Concepts – Toolbox – Structure and Function <p>Synthesize - TE/SB pp. 157 - 159</p> <ul style="list-style-type: none"> Interactivity – What are some parts of animals? Animal Parts Quest Connection Quest Check-In: Different Shapes, Different Uses* <p>Demonstrate - TE/SB p.159</p> <ul style="list-style-type: none"> Lesson 2 Quiz
<p><u>Lesson 3 People Learn from Plant and Animal Parts</u> PE: 1-LS1-1 SEP: Analyzing and Interpreting Data* Planning and Carrying Out Investigations* Constructing Explanations and Designing Solutions* DCI: LS1.A – Structure and Function</p> <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. <p>LS1.D - Information Processing</p> <ul style="list-style-type: none"> Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas Guiding Objective</p> <ul style="list-style-type: none"> Students will demonstrate how people can learn from plant and animal parts. <p>Vocabulary</p> <ul style="list-style-type: none"> mimic <p>Connect - TE/SB p. 162</p> <ul style="list-style-type: none"> Jumpstart Discovery <p>Investigate - TE/SB pp. 163-164</p> <ul style="list-style-type: none"> Video – People Learn from Plant and Animal Parts uInvestigate Lab – What can people learn from an acorn shell?* Quest Connection <p>Synthesize - TE/SB pp. 165-166</p> <ul style="list-style-type: none"> Interactivity – How People Mimic Living things Reading Check – Compare and Contrast* Quest Check-In – A Sticky Invention* <p>Demonstrate - TE/SB p.167</p> <ul style="list-style-type: none"> Lesson 3 Quiz

<p>Lesson 4 Where Plants and Animals Live</p> <p>PE: 1-LS1-1, K-2-ETS1-2</p> <p>SEP: Planning and Carrying Out Investigations* Obtaining, Evaluating, and Communicating Information* Developing and Using Models* Analyzing and Interpreting Data*</p> <p>DCI:</p> <p>LS1.A – Structure and Function</p> <ul style="list-style-type: none"> All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. <p>LS1.D - Information Processing</p> <ul style="list-style-type: none"> Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. <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>ETS1.C – Optimizing the Design Solution</p> <ul style="list-style-type: none"> Because there is always more than one possible solution to a problem, it is useful to compare and test designs <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas</p> <p>Guiding Objective</p> <ul style="list-style-type: none"> Students will use their senses to observe living things in their environments. <p>Vocabulary</p> <ul style="list-style-type: none"> environment <p>Connect - TE/SB p. 168</p> <ul style="list-style-type: none"> Jumpstart Discovery <p>Investigate - TE/SB pp. 169-172</p> <ul style="list-style-type: none"> Video – Where Plants and Animals Live Investigate Lab – What happens to a water plant out of water?* Science Practice – Toolbox – Ask Questions* Quest Connection Reading Check – Compare and Contrast* <p>Synthesize - TE/SB p. 173</p> <ul style="list-style-type: none"> Interactivity – Land and Water Environments <p>Demonstrate - TE/SB p.174</p> <ul style="list-style-type: none"> Lesson 4 Quiz Quest Check-In Lab – How do snowshoe hares stay safe?*
<p>Topic Close</p> <ul style="list-style-type: none"> Assessment and Remediation TE/SE pp. 176-183 Quest Finding 176 	<p>Topic 5 Enrichment</p> <p>Topic 5- Lesson 1 Enrichment - TE p. 151- This activity extends student understanding of the lesson by having them identify the type of tree according to their leaf shapes. Enrichment Skill- Categorizing</p> <p>Topic 5- Lesson 2 Enrichment - TE p. 158- This activity extends student understanding of the lesson by having the students read about predator and prey relationships. Academic vocabulary used include predator, prey, hunted. Enrichment Skill- Academic Vocabulary</p> <p>Topic 5- Lesson 3 Enrichment - TE p. 166- This activity extends student understanding of the lesson by having students read about biomimicry. Enrichment Skill- Reasoning</p> <p>Topic 5- Lesson 4 Enrichment - TE p 175- This activity provides students the opportunity to compare/contrast how black bears and snow hares get ready for the winter 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 1.
	<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 1.
	<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 1. ● <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

<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 Gr 1 Resources Gr 1 SUTW materials</p>	<ul style="list-style-type: none"> ● Easy Two-Column Notes ● Breaking Down Definitions ● Paragraph Frame- What I Learned ● <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 writing. Scroll for grade 1.
<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