Grade K Science
Unit # 3 Life Science

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Topic 5 (34 days) – Needs of Living Things
Topic 4 (34 days) – Environments

Unit Overview: In this unit students will learn what plants and animals need to survive. Through investigations, students will discover some ways that plants and animals obtain these things. The students will also learn different ways that plants and animals can grow and change. Students will then take this knowledge connect 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; learn about different ways that people can change the environments in order to get the resources they need; and finally, learn different things people can do to help protect the environment.

Unit 1 NYSSLS Performance Expectations (PE)

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive. [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and that all living things need water and other materials to live, grow, and thrive.]

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.

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.

Unit 1 NYSSLS Science and Engineering Practices (SEP)

- Planning and Carrying Out Investigations
- Analyzing and Interpreting Data
- Asking Questions and Defining Problems
- Developing and Using Models
- Constructing Explanations and Using Models
- Obtaining, Evaluating, and Communicating Information
- Engaging in Argument from Evidence

Unit 1 NYSSLS Disciplinary Core Ideas (DCI)

- **LS1.C: Organization for Matter and Energy Flow in Organisms**
  - (NYSED) All animals need food, air, and water in order to live, grow, and thrive. Animals obtain food from plants or from other animals. Plants need water, air, and light to live, grow, and thrive. (K-LS1-1
- **ESS2.E: Biogeology**
  - Plants and animals can change their environment. (K-ESS2-2)
- **ESS3.A: Natural Resources**
  - Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1)
- **ESS3.C: Human Impacts on Earth Systems**
  - Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2),(K-ESS3-3)
- **ETS1.B: Developing Possible Solutions**
  - (NYSED) Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas to other people (secondary to 2-LS2-2)

Unit 1 NYSSLS Cross Cutting Concepts (CCC)

- **Cause and Effect**
- **Patterns**
- **Systems and System Models**

Resources

- **Pearson Elevate Science Book NY Grade K Topics 1-2**
- **PearsonRealize.com**
- **Pearson Lab materials**
- http://ngss.nsta.org/Classroom-Resources.aspx
- http://newyorkscienceteacher.com/sci/

Measurement of Student Learning

- Lesson Quiz
- Topic Assessment and Remediation
- Evidence-Based Assessment
- Quest Rubrics

Step Up to Writing

SUTW Strategy
Connect, Case Studies
Easy 2-Column Notes

Content Vocabulary
Breaking Down Definitions

Investigate/Synthesize/Quest
IVF Summary Sentences

Investigate/Synthesize/Quest
Four Step Summary Paragraph

Investigate/Synthesize/Quest
Color-Coding the Elements of Informative

Investigate/Synthesize/Quest
Explanatory Writing Informal Outlines

ELL Enhancements

Pearson Elevate Science Supports

Topic Differentiated Instruction in TE
Topic Remediation Summary in TE
Leveled Readers
ELL Support in TE
ELL Vocabulary Support in TE

Listening	Speaking	Reading	Writing	Accommodations
Build Background Knowledge Audio	Sentence Frames Academic conversation Starters	Supplementary Texts Visual Aids Video Standards-based questions	Sentence Frames Graphic Organizers Standards-based sentence stems	Extended time Directions read 3x Oral interpretation Translated version of test (may have both English and other) Responses in home language

Special Education Modifications

Pearson Elevate Science Supports

Topic Differentiated Instruction in TE
Topic Remediation Summary in TE
Leveled Readers

Instructional	Assistive technology	Assessment:	
Pre-teach vocabulary Use picture vocabulary	Computer for lengthy writing tasks Audio textbook	Scaffold written assignments Individual criteria for success Provide with review packet	

Picture examples of safety measures posted Pictures for each category of science Scaffold Depth of Knowledge questions Provide copy of notes/notes in" cloze" form Peer partner Extended time for written tasks/verbal response Break long tasks over multiple days Allow for multiple ways to respond (verbal, written, response board, scribe) Provide mock/model of performance task Model use of graphic organizers (fade until mastery) Modify informational text to shorter passages Provide model of exemplar lab write-up Provide interactive notebook Present complex tasks in multiple ways Model steps to read, interpret, and construct graphs Multiple opportunities to perform to repeat labs Provide advance organizer of class tasks	Videos to clarify concepts Recording device to record class lecture/discussions **Other** Arrange seating for maximum engagement and minimum distraction Accessible lab space (counter level)	Modify the number of questions Provide model of the task Provide multiple options for project Practice calculating density with sample problem before assessing student.	

Culturally and Linguistically Responsive Teaching (CLRT) in the Science Classroom
Pearson Elevate Science Supports **Pearson Elevate Science Resources**
• 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