Kindergarten Unit 3 - Basic Needs of Living Things

Content Area: **Science**
Course(s): **Science Grade K**
Time Period: **MP3**
Length: **34 days**
Status: **Published**

NJSLS - Science

K-LS1-1	Use observations to describe patterns of what plants and animals (including humans) need to survive.
K-ESS2-2	Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
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.
K-ESS3-3	Communicate solutions that will reduce the impact of climate change and humans on the land, water, air, and/or other living things in the local environment.

Science and Engineering Practices

Analyzing and Interpreting Data

Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)

Engaging in Argument from Evidence

Construct an argument with evidence to support a claim. (K-ESS2-2)

Developing and Using Models

Use a model to represent relationships in the natural world. (K-ESS3-1)

Obtaining, Evaluating, and Communicating Information

Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3)

Disciplinary Core Ideas

LS1.C: Organization for Matter and Energy Flow in Organisms

All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (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. (K-ESS3-3)

Crosscutting Concepts

Patterns

Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1)

Systems and System Models

Systems in the natural and designed world have parts that work together. (K-ESS2-2, K-ESS3-1)

Cause and Effect

Events have causes that generate observable patterns. (K-ESS3-3)

Rationale and Transfer Goals

In this unit, students become Earth Detectives to explore the vital connections between living things and their

environments. Students begin by observing what plants and animals (including humans) need to survive, discovering that all living things have basic requirements like food, water, and shelter. They will look closely at how plants and animals actively change their environments to meet these needs, such as tree roots breaking a sidewalk or a squirrel digging holes.

Moving from local observations to broader systems, students map out the relationships between different living things and their specific habitats, discovering how a marsh, forest, or backyard provides the exact resources its residents need. Finally, students will think critically about human impacts on the local environment and collaborate on real-world solutions to protect and conserve natural resources, such as recycling or designing a school garden.

Enduring Understandings

All living things (plants, animals, and humans) have basic needs that must be met in order to live and grow.

Living things do not just live in an environment, they actively change their surroundings to meet their needs.

The Earth provides specific habitats (homes) that give plants and animals exactly what they need to survive.

Human choices affect the land, air, water, and other living things around us, and we have the power to design solutions to protect our planet.

Essential Questions

What do plants and animals need to live, grow, and be happy?

How do living things change the world around them?

How does the Earth give plants and animals exactly what they need?

How can we work together to take care of our planet?

Content - What will students know?

- Animals need water, food, and air to survive. Unlike plants, animals must take in food from their surroundings.
- Plants need water, light, air, and space to live and grow. Plants do not eat food like animals; they make their own food using light.
- Humans have these same basic needs to stay healthy and grow.
- Animals alter their physical surroundings to meet their needs.
- Plants can physically change their environment as they grow.
- A habitat is a place where a plant or animal naturally lives because it provides the right amount of water, food, and shelter.
- Different areas provide different resources. Animals will live only where their specific needs can be met.
- Things people do in their daily lives can affect the land, water, air, and other living things (either positively or negatively).
- The basic concepts of Reduce, Reuse, and Recycle as ways to protect natural resources.
- Simple actions children can take to help the earth.

Skills - What will students be able to do?

- Collect data by observing classroom plants, outdoor spaces, or digital media to identify patterns in what living things need.
- Sort and group items into categories.
- Create a simple chart or graph representing class observations of living things and their survival requirements.
- Spot and describe physical evidence during a schoolyard nature walk that shows a plant or animal has changed its environment.
- Draw or look at pictures to compare a space before and after an organism changed it.
- Draw, build, or verbally explain a simple model that links an animal to the specific resources in its home.
- Match various plants and animals to the specific habitats that can support their needs.

- Brainstorm and talk about ways that human choices alter the local land, water, or air.
- Create and present a solution using drawings, speech, or shared writing to show how the class can protect local wildlife and natural resources.

Activities - How will we teach the content and skills?

- Mystery Science Animal Secrets Lesson 1
- Mystery Science Animal Secrets Lesson 2
- Mystery Science Animal Secrets Lesson 3
- Mystery Science Animal Secrets Lesson 4
- Mystery Science Plant Secrets Lesson 1
- Mystery Science Plant Secrets Lesson 2
- Mystery Science Plant Secrets Lesson 3
- Read aloud lesson: Where Do Polar Bears Live?
- Living Vs. Nonliving Sorting Activity
- The Needs of Living Things
- BrainPop Jr. Living and Nonliving things
- The Wonder of Science
- What's Your Habitat?
- Plants and Animals Unit

Formative Assessments - How will we know what students have learned?

- Mystery Science Animal Secrets Lesson 1 Assessment
- Mystery Science Animal Secrets Lesson 2 Assessment
- Mystery Science Animal Secrets Lesson 3 Assessment
- Mystery Science Animal Secrets Lesson 4 Assessment

- Mystery Science Animal Secrets Performance Task
- Mystery Science Plant Secrets Lesson 1 Assessment
- Mystery Science Plant Secrets Lesson 2 Assessment
- Mystery Science Plant Secrets Lesson 3 Assessment
- Mystery Science Plant Secrets Performance Task
- Teacher Observation
- Student projects/models
- Individual and Group Participation
- Exit Tickets

Summative Assessments - How will we know what students have learned?

- Quizzes
- Grade K Unit 3 Benchmark

Spiraling for Mastery

Content or Skill for this Unit	Spiral Focus from Previous Unit	Instructional Activity
Plants and Animals have parts, or structures, that work together, enabling them to meet their needs in a variety of environments. Things that people do to live comfortably can affect the world around them.	n/a	Mystery Science Units • Animal Needs • Plant Needs Read aloud lesson: Where Do Polar Bears Live? Living Vs. Nonliving Sorting Activity The Needs of Living Things

		BrainPop Jr. Living and Nonliving things The Wonder of Science What's Your Habitat? Plants and Animals Unit

Key Resources

Mystery Science

Plants and Animals Unit

The Wonder of Science

Living Things and Their Needs Teacher's Guide

From Seed to Fruit

The Importance of Water

Plant Structure

Career Readiness, Life Literacies, and Key Skills

9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.1.2.CR.2	List ways to give back, including making donations, volunteering, and starting a business.
9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
9.4.2.CT.1	Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).
9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

Interdisciplinary Connections

K.M.A.2	Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
RL.CR.K.1	With prompting and support, ask and answer questions about key details in a literary text (e.g., who, what, where, when, why, how).
W.AW.K.1	Use a combination of drawing, dictating, and writing to compose opinion pieces on topics or texts (e.g., My favorite book is…).
W.IW.K.2	Use a combination of drawing, dictating, and writing to compose informative/explanatory texts to convey ideas.
W.WR.K.5	With prompting and support, generate questions through shared research in response to a topic, text, or stimulus (e.g., event, photograph, video, book).
SL.UM.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.