



K - Science - Unit 3: Living and Nonliving Things

Unit: Science , Grade(s) K

Living and Nonliving Things

Duration: 10 Weeks

Unit

Scope and Sequence

Topic Living and Nonliving Things

Duration: 9-10 weeks

PA Standards

- 3.1.K.A1- Identify the similarities and differences of living and non-living things.
- 3.1.K.A9-
 - Distinguish between scientific fact and opinion.
 - Ask questions about objects, organisms, and events.
 - Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known.
 - Plan and conduct a simple investigation and understand that different questions require different kinds of investigations.
 - Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their senses to gather information.
 - Use data/ evidence to construct explanations and understand that scientists develop explanations based on their evidence and compare them with their current scientific knowledge.
 - Communicate procedures and explanations giving priority to evidence and understanding that scientists make their results public, describe their investigations so they can be reproduced, and review and ask questions about the work and other scientists.

Next Generation Science Standards

- K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
- 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-ETS1-1. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Eligible Content

- S.K-2.B.3.1.1. Distinguish between living and nonliving things.
- S.K-2.B.3.1.2. Identify plants and animals as living things.

Starting Points

In the first quarter, students learned how to think and observe like a scientist using their five senses to make observations. In this quarter, students will use these skills they learned to compare and contrast living things to nonliving things. Students will be able to understand that all living things need food, water, air, and a place to live and grow. This quarter will explain the needs and characteristics that all living things share and guide students as they discover the differences between living and nonliving things. By the end of this quarter, students will be able to identify the four specific characteristics that make something living which are: living things are made up of parts, living things use energy to grow, living things respond to their environment, and living things reproduce. With this being



said, students will also be able to identify things that were once living, but are no longer living. Once the students understand living, nonliving, and once living, they will be able to sort and group things based on common characteristics such as where they grow/ live, the food they eat, size, etc. They will be able to do the same for non-living things, such as sorting them based on naturally made or man made. Finally, students will be able to observe the effects of weather on living and nonliving things.

Performance Objectives

SWBAT:

- use their five senses **IOT** describe living and nonliving things.
- use the scientific method **IOT** ask questions about living and nonliving things.
- observe plants and trees during the fall **IOT** see that living things can die, which is called once living.
- observe the weather **IOT** see how it affects living and nonliving things.
- investigate living things **IOT** observe that all living things need food, water, air, and a place to grow.
- observe offspring and various living things **IOT** gain a better understanding of one of the four specific characteristics of living things.
- understand the difference between manmade and natural **IOT** classify nonliving things into groups.
- use their observations **IOT** sort living and once living into groups.
- compare and contrast living and nonliving **IOT** separate and sort them into groups.
- use observations **IOT** describe what animals and plants need to survive.
- use a model **IOT** explain the relationship between the needs of different plants or animals and the places they live.

Key Terms and Definitions

- characteristic-** a special quality or trait that makes a person, thing, or group different from others
- animal-** a living thing that is not a human being or a plant (Example: dogs, rabbits, bears, etc.)
- energy-** the ability to do work
- environment-** all of the conditions that affect a living thing
- living-** things that need food, water, air, and a place to live and grow (Example: humans, plants, animals, etc.)
- nonliving-** something that does NOT need food, water, air, and a place to live and grow (Examples: rocks, clothes, cars, etc.)
- offspring-**to make another living thing of the same kind; children or young from a living thing
- plant-** a living thing such as a tree or a flower that needs water, air, and the sun to grow from the ground
- reproduce-** the process that produces babies, young animals, and new plants
- grow-** to get bigger
- once living-** things that were once living, but are no longer living (dead)
- survive-** to remain alive, to continue to live
- model-** a representation of something (sometimes on a smaller scale)
- relationship-** the way in which two or more things are connected
- needs-** the things necessary for survival
- habitat-** the natural home or environment of an animal, plant, or other organism
- organism-** an individual animal, plant, or other living thing
- environment-** the surroundings or conditions in which a person, animal, or plant lives

Scaffolded Questions - These questions will help build knowledge to answer the following essential questions.

- What are the four characteristics of living things?
- What are examples of living things?
- What are examples of nonliving things?
- How do we know if something is living or nonliving?

Essential Questions

- What makes something once living?
- How do scientists find out about objects, living things, events, and phenomena?
- How are living things different from non-living things?
- How do the parts of living things help them survive?



In what ways can we sort living things?
In what ways can we sort nonliving things?

Scientific Question: Is _____ living or nonliving?

Make your claim: Write or speak a complete sentence that answers the scientific question.

Give your evidence: Give two reasons to support your claim about how you know it is living or nonliving.

Instructional Resources

Teacher Links for Lessons
[What's Alive? \(slideshare\)](#)

[Mini Unit: Living and nonliving](#)

[Montessori Monday Living Nonliving](#)

[Introduction to once living](#)

Activities

[Is it living? Recording Sheet](#)

[Living-Nonliving](#)

[Gummy worms vs earth worms](#)

[Snippet by Sarah: living and nonliving](#)

Song

<https://docs.google.com/file/d/0B0bn51-8JcKsYThEZxNuQXc5ZXM/edit>

Videos

<https://www.youtube.com/watch?v=giWqEPNLtBo>

Books

[From Nut to Tree](#) by Millie Landis

[The Little Mouse, the Red Ripe Strawberry, and the Big Hungry Bear](#) by Don and Audrey Wood

[The Great Race of the Birds and Animals](#) by Paul Goble

[Animals in Winter](#) by Henrietta Bancroft & Richard G. Van Gelder

[What's Alive?](#) by Kathleen Weidner Zoehfeld

[I am a Living Thing](#) by Bobbie Kalman



[Do You Know Which Ones Will Grow?](#) Susan Shea

[Is it Living or Nonliving?](#) by Rebecca Rissman

[Living and Nonliving](#) by Angela Royston

[Living Things Need Water](#) by Bobbie Kalman

[What is a Food Chain?](#) by Bobbie Kalman

[Who Eats What? Food Chains and Food Webs](#) by Patricia Lauber

[The Giving Tree](#) by Shel Silverstein

Standards Covered

CCSS ELA

Kindergarten

LA.K.CCSS.ELA-Literacy.R.K: Reading

- LA.K.CCSS.ELA-Literacy.RI.K: **Informational Text**
 - LA.K.: **Key Ideas and Details**
 - LA.K.CCSS.ELA-Literacy.RI.K.1: **With prompting and support, ask and answer questions about key details in a text.**

LA.K.CCSS.ELA-Literacy.SL.K: Speaking and Listening

- LA.K.: **Comprehension and Collaboration**
 - LA.K.CCSS.ELA-Literacy.SL.K.3: **Ask and answer questions in order to seek help, get information, or clarify something that is not understood.**
- LA.K.: **Presentation of Knowledge and Ideas**
 - LA.K.CCSS.ELA-Literacy.SL.K.5: **Add drawings or other visual displays to descriptions as desired to provide additional detail.**

CCSS Mathematics

MA.K.CCSS.Math.Content.K.MD: Measurement and Data

MA.K.CCSS.Math.Content.K.MD.A: Describe and compare measurable attributes.

- MA.K.CCSS.Math.Content.K.MD.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. For example, directly compare the heights of two children and describe one child as taller/shorter.**

Next Generation Science Standards

SCI.K.K-LS1: From Molecules to Organisms: Structures and Processes

SCI.K.K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive. 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.

SCI.K-2.K-2-ETS1: Engineering Design

SCI.K-2.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.

SCI.K-2.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.

PA Assess Science

S.3.B: Biological Sciences

S.3.B.3: Ecological Behavior and Systems

- S.3.B.3.1: **Identify and describe living and nonliving things in an ecosystem and their interaction.**
 - S.3.B.3.1.1: **Identify the living and nonliving components of an ecosystem (e.g., living [plants, animals]; nonliving [water, soil, air]).**



- S.3.B.3.1.2: Describe the interactions between living and nonliving components of an ecosystem (e.g., plants [water, sunlight]; animals [air, shelter]).

PA Science Academic Stds

3.1: Biological Sciences

3.1.A: Organisms and Cells

- 3.1.K.A1: Common Characteristics of Life Students acquire the knowledge and skills needed to:
 - 3.1.K.A1.1: Identify the similarities and differences of living and nonliving things.

4: Plan and conduct a simple investigation and understand that different questions require different kinds of investigations.

PA Science and Technology and Engineering

1: Distinguish between scientific fact and opinion.

2: Ask questions about objects, organisms, and events.

3: Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known.

5: Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their senses to gather information.

6: Use data/evidence to construct explanations and understand that scientists develop explanations based on their evidence and compare them with their current scientific knowledge.

7: Communicate procedures and explanations giving priority to evidence and understanding that scientists make their results public, describe their investigations so they can be reproduced, and review and ask questions about the work of other scientists.

Additional Properties

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