

Outdoor Science! Week 1: Grades K-2

Day	Topics	Related Standards
1	Investigating Living vs Non-Living	<u>Observe, ask questions, and explain</u> the differences between the characteristics of living and non-living things.
2	Investigating Energy Distribution	<u>Develop a model</u> representing how life on Earth depends on energy from the Sun and energy from other organisms.
3	Investigating Plant and Animal Structures	<u>Observe, ask questions, and explain</u> how specialized structures found on a variety of plants and animals (including humans) help them sense and respond to their environment.
4	Investigating Growth and Survival	<u>Develop and use models</u> about how living things use resources to grow and survive.
5	Investigating Organism Resources	<u>Obtain, analyze, and communicate</u> evidence that organisms need a source of energy, air, water, and certain temperature conditions to survive.

Outdoor Science! Week 1

Day 1: Investigating Living vs Non-living

Teacher/Parent Background

Young learners often have difficulty characterizing things as living or non-living. For example, they tend to describe anything that moves as alive. They also do not yet understand the cycle of life (birth, growth, death), and therefore classify as non-living anything that has died. In science, *living* is used to describe anything that *is or has ever been alive* (dog, flower, seed, road kill, log); *non-living* is used to describe anything that *is not now nor has ever been alive* (rock, mountain, glass, wristwatch).

Overview:

In this activity, students learn about the characteristics that distinguish living things from non-living things. By taking a walk around the house and backyard, students will document characteristics of a variety of objects and organisms. From there, students will be able to determine what is living vs non-living.

Related Standards

- Observe, ask questions, and explain the differences between the characteristics of living and non-living things.

Key Terms

- Living
- Non-Living
- Organism
- Nutrients

Materials List

- Pencil
- Parental/adult supervision
- Safe, outdoor areas
 - Frontyard, backyard, neighborhood sidewalks, nearby field or park, etc.
- Journal
- Colored pencils/crayons
- Computer/phone with audio - optional for *Extension* resource

Activity Description

1. Ask your students to name one living thing and one non-living thing. Write all their contributions below, or on your own piece of paper.

Living	Non-living

2. Tell students that they will be studying living things, or organisms. Have students reflect on the list of organisms they generated and think about all the features that make organisms "alive." Have them brainstorm answers to these questions:

- *What are some characteristics of living things?*
- *What are some characteristics of non-living things?*
- *What makes living things different from non-living things?*

If your students are not reading or writing yet, use pictures or symbols to represent written text.

Write all ideas down. This student-generated list can be used as a reflection tool throughout the unit. **Avoid telling students the correct answers.**

3. Explain to students the scientific definition of *living* (anything that is or has ever been alive) and *non-living* (anything that is not now nor has ever been alive). Remember that the difference between non-living and dead can be confusing to young learners. Give an example of something that is dead but still classified as living, such as a log. Use the image below to assist:



5. After the characteristics have been established, determine a few objects or organisms around the house or outside to document. Using the table, check the boxes that apply to determine if it's living or non-living. See the examples in the tables. To simplify the task of recording their observations, young students can draw pictures or use symbols to represent the things they examine.

- *You may want to choose one example and model the process of scientific inquiry for students. Ask questions (Does this example reproduce? Does it grow?), make observations (The river is definitely moving.), and carefully record the results. Point out the importance of thinking like a scientist.*

As students explore the examples, they may discover other characteristics of life they hadn't thought of earlier. Encourage them to add these characteristics to the chart.

Closure

6. Have students reflect on their findings by discussing the following questions:

- *What characteristics did ALL of the living things have in common?*
- *Did any non-living things possess some of the same characteristics as living things? Which ones?*
- *How were the living things different from the non-living things?*

7. Assess students' understanding (and identify possible misconceptions) by asking:

- *Are all things that move "alive"? Have them defend their ideas by referring to the results of their explorations.*
- *What kinds of non-living things move?*

Extension:

[Generation Genius Video](#)