

Living vs. Non-living

Lesson Overview

In this lesson, students will use a graphic organizer and a card sort to explore the characteristics that separate living organisms from nonliving things.

Standards Addressed

SC 2005 6-2.1 Summarize the characteristics that all organisms share (including the obtainment and use of resources for energy, the response to stimuli, the ability to reproduce, and the process of physical growth and development).

SC 2014 6.L.4A.1 Obtain and communicate information to support claims that living organisms (1) obtain and use resources for energy, (2) respond to stimuli, (3) reproduce, and (4) grow and develop.

NGSS MS-LS 1-1 Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

Disciplinary Literacy Best Practices

Line of Learning

Graphic Organizer (T-Chart)

Card Sort

Exit Ticket

Lesson Plan

Time Required – One 55 minute class

Disciplinary Vocabulary – energy, stimuli, response, growth, development

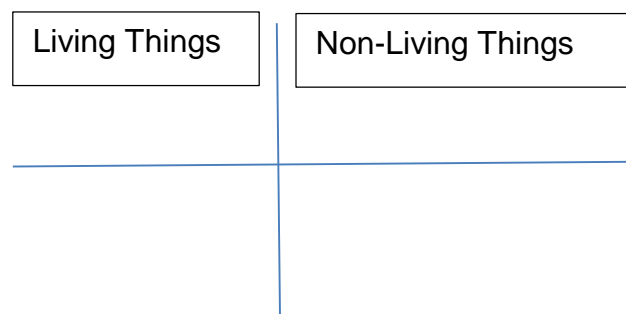
Materials Needed:

- Printed and laminated cards for card sort
- Student notebooks

Assessment: Completed graphic organizer, line of learning, exit ticket

Engage

- Have students think about a time they have had to sort, arrange, or classify different types of things (Examples: laundry, groceries, dishes, etc.)? Ask them what they were actually doing when they sorted or classified (arranged things into smaller groups).
- Have students open their personal notebook and **pre-write** what they know about living and nonliving things. After they have had a few minutes to write, ask them to finish their thoughts.
- At this point, introduce the **Line of Learning**. A **Line of Learning** is exactly what it sounds like; a physically drawn line that separates what was written during the pre-write, providing space below to add new learning. You will return to this later in the lesson for students to add to their prior knowledge.
- Ask students to suggest ways they might classify different things in the classroom? Take their suggestions, and then tell them: Today we're going to classify things in the classroom as living and nonliving. Allow students time to make a **T-Chart Graphic Organizer** in their personal notebook that has "Living Things" on the left side and "Non-Living Things" on the right side.



- Ask students to share the characteristics, special features or qualities they used when classifying the items in the classroom as living and nonliving.
- Pair students and have them talk about those characteristics that the items that are living have in common. Have them develop a list of the characteristics that all living things possess.

Explore

- Explain that the process of arranging or classifying into classes or a group by their similarities is called classification.
- Provide the students with a set of picture cards including living and nonliving things. (See end of lesson for sample cards) Allow time for groups of students to sort cards into the two distinct groups. This Card Sort strategy allows you to see what students are thinking by the way they “sort” their cards.

Note to Teacher: You can print these out on cardstock and laminate them for future use. You do not have to have the identification words on the cards; they are there for you to identify the picture if a student asks.

- Provide time for students to use the living things/nonliving things cards to discuss and list the characteristics and basic needs of organisms featured on the cards.
- Compile a class list of the features of living things. (See list below) Once they have shared their features, discuss with them the definitions of response, stimulus, energy, growth and development and reproduction as they apply to living things.
 - Response-all organisms react to changes in their environment; react to a stimulus with a response, an action or change in behavior.
 - Stimulus - a change in the environment that causes organisms to react.
 - Energy- all cells in the body need energy to grow, repair, and carry out life functions.
 - Growth and Development- the process of increasing in size and development is the process of change that happens as an organism become more complex.

Explain

- Call students together for class discussion.
- Questions to pose during class discussion might include:

What are the features of living things? What do all living things need? What are two ways organisms obtain resources? Discuss different ways organisms respond to stimuli. What are two ways that organisms reproduce?

- Discuss and explain the difference between growth and development. Growth is the process whereby the organism increases in size. Development is the process that results in the organism changing and becoming more complex structurally.
- Have students return to their Line of Learning and add any new learning below the line.
- Assess student understanding by having them complete an Exit Ticket prior to ending class. Have them answer the following prompt on a loose leaf sheet of paper to hand to you as they are “exiting” the class.

Name at least three characteristics of living organisms.

Extend

- Allow the students to reflect in cooperative groups using text information, data charts and any other resources they have available. Each group will share information on two living organisms with the class.

Teacher Reflections and Biographical Information

In science, living is used to describe anything that is or has ever been alive; nonliving is used to describe anything that is not now nor has ever been alive. Over time, students will begin to understand that all living things grow, breathe, reproduce, excrete, respond to stimuli, and have similar basic needs like nourishment.

This lesson originally appeared in the SC Standards Support System (S3) Curriculum. As part of the IQMS project, we adapted it by supplementing additional disciplinary literacy strategies to support student understanding of the content.

Lesson Author: Adapted from the SC Standards Support System (S3) Curriculum by Alice Gilchrist. Mrs. Gilchrist was a classroom teacher, a Science Educational Specialist and now serves as Coordinator of the Western S²TEM Centers SC.

Living Things



Rattlesnake



Squirrel



Lion



Elephant



Buffalo



Giraffe



Shark



Clams



Dolphin



Starfish



Desert Tortoise



Camel



Turtle



Duck



Scorpion



Gila Monster



Great Horned Owl



Sidewinder



Bullfrog



Beaver



Polar Bear



Arctic Fox



Seal



Penguin

Non Living Things



American Flag



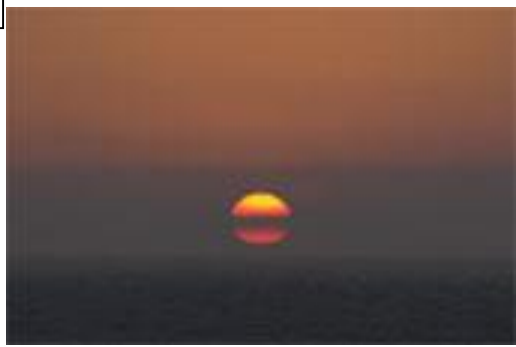
Manhole



Newspapers



Cars and Bridge



Sunset



Plaque



City View



Fire Escapes



Street Sign



San Francisco Bridge



View Binocular



Statue of Liberty



Fireworks



Bicycle



Wind Surfing



Tennis



Canoes



Railroad Crossing



Lighthouse



Columns



School Sign



Windmill



Air Force Base B-52 Bombers



Lincoln Memorial