

Living Nonliving Things

4th Grade

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Benchmarks:

SLC 18: Students will describe the characteristics that determine if something is living (ability to grow and change, reacting to its environment, needing a food/energy source, taking in gases, reproducing, and having cells), dead, or nonliving.

Objective:

Distinguish between living and nonliving things and be able to tell what makes something living or nonliving.

Materials:

- Bag/Jar for collection
- Large Sheets of Paper
- Marker
- Collection of living (plant, leaf, twig, bug, pictures of animals and people) and nonliving (chalk, eraser, rock, sand, cup of water, plastic object, pencil, coin) things
- Magazines
- Scissors
- Tape

Initial Observation:

Divide the students into small groups (~4 per group). Tell students they are to collect 4 objects each from the playground. Take the class to the playground or other outside area. Allow 5-10 minutes for collecting specimens. Return to the classroom. Give the students 5-10 minutes to classify their groups – challenge groups to come up with several different classifications. Discuss the classifications, with particular emphasis on those that used living/non-living distinctions. Which classifications are best for science? Today we're going to talk about one scientific classification – Living/non-living.

Target Observations:

- Objects can be classified by:
 - Living/non-living
 - Color
 - Shape
 - Hard/soft
- Living/non-living and Hard/soft could be used for scientific classification.

Target Model:

-Objects can be classified as Living or Non-living.

Procedure:

Ask the students what makes a living thing different from a nonliving thing.

Living: They breathe (take in or release gases), take in energy (food), grow or change, made of cells, reproduce, react to the environment. This includes people animals and plants

Nonliving: possess some of the characteristics of living things.

Once living: things that were once living (had all 6 characteristics) but are now dead.

Review common nonliving things with living characteristics: exhibit one or several living characteristics but not all of them:

Clouds: have ability to move and change

Water: ability to move and change, react to environment

Fire: needs oxygen, energy, grows and changes

Icicle: react to environment, move and change

Give each group a large piece of paper and a marker. Have the students fold their piece of paper in half. Tell the students to write the word 'living' on one side of the paper, and 'non-living' on the other. Have all of the groups sort their objects into the living/non-living categories by following the 6 criteria established above. As you monitor this activity, you may need to add to a group's collection to insure that each classification is adequately represented.

After 10 minutes, call a halt to the activity. Call upon each group to share the objects in the living column. Ask students why they put specific items in that circle. For example, why did you put the flower in the living circle? Students should respond with the definition of a living thing: alive now or was once alive. Have students carefully return the objects to the bag. Collect the bags.

Target Observations:

- Living things are things that have (or had) all of the following characteristics:
 - Breathe (take in or release gases)
 - Take in energy (food)
 - Grow or change
 - Made of Cells
 - Reproduce
 - React to the environment
- Some non-living things (like clouds, fire, and water) have a few characteristics of living things, but not all.

Target Model:

-Objects can be classified as Living or Non-living.

-*Living things are have all of the characteristics:*

-*Breathe (take in or release gases)*

-*Take in energy (food)*

-*Grow or change*

-*Made of Cells*

-*Reproduce*

-*React to the environment*

-*Some non-living things have a few characteristics of living things.*

Procedure:

Write the following words on the board and go through each of the six characteristics to decide if it is living or nonliving. If it is non-living, which living characteristics does it have?

River (non-living): Moves/changes, reacts to the environment.

Icicle (non-living): Moves/changes, reacts to the environment

Tornado (non-living): Moves/changes, reproduces, reacts to the environment

Truck (non-living): Breathes, Take in energy, Moves/changes

Dog (living)

Tree (living)

Bird (living)

If there is still time have each student get a magazine and a pair of scissors. Tell each student to cut out different pictures of living and nonliving things. They will place them on their group's living/non-living paper and tape them down.