
Environmental Scientist

Overview:

This lesson and activity are designed to give students hands-on experience with living organisms and non-living objects.

Grade: K

TEKS

Scientific processes

K.2 (A, C, E)

K.4 (B)

Science Concept

K.5 (B)

K.6 (A, B)

K.7 (A, C, D)

K.8 (A, B)

Literature

The Wise Woman And Her Secret

Vocabulary

Object

Organism

Living

Non-Living

Materials

Discovery Book

Compass

Hula-Hoops

Thermometer

Field Guides

Ziploc Baggies

Q-tips

Syrup

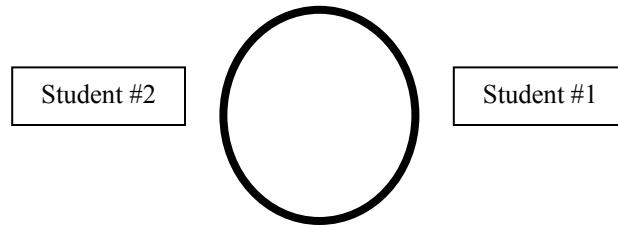
Living and Non-Living

Classroom Activity

1. As a pre test activity, make copies and a transparency of "Living or Non-Living Quiz" activity sheet. Ask your students to circle the living organisms. Collect and use for future student evaluation of Living and Non-Living.
 2. Place the transparency on the overhead and discuss each object and organism with your students. Explain that non-living object have *never* been alive. Ask your students to give examples of non-living object found in your classroom.
 3. Living organisms generally meet the following criteria:
 - Use oxygen
 - Grow and develop
 - Need food to grow
 - Reproduce
 - Able to move*
- * Plants are the exception.
4. Ask your students to give examples of living organisms. List their responses on the overhead projector. Help your students understand the connection between their living example and the criteria listed above.
 5. Next, take your students outside to collect and record their observations about living organisms and non-living objects.

Randomly place hula-hoops on the ground and have 2 or 3 students assigned to each hula-hoop.

Ask your students to observe the area inside the hula-hoop for living organisms and non-living objects. Each time they see a new organism or object the students are to record a mark on the living or non-living data sheet. Remind your students to look close and to take their time. Give each team a ziploc baggie and have them place a living organism and non-living objects in the baggie.



6. In the classroom, ask each "team" of students to report their finding to the class. Make a transparency of the "Living Organism Criteria" and place on the overhead projector. This will help your students focus their discussion about living organisms and non-living objects. This is a good time to discuss with students about how scientists report to one another through meetings, papers, and the Internet. This is how scientists gain new knowledge and understanding the environment.
7. Using the overhead projector, compile each team's data into the categories of living and non-living. How many living organisms did your students observe? How many non-living objects did they find? Discuss with students the importance of each object/organism and why each is an important component in the ecosystem.
8. To close the lesson, read *The Wise Woman And Her Secret* by Eve Merriam. Discuss with your students the importance curiosity and how it is an important characteristic if one is to become a scientist.
9. Prior to visiting the Eastman Nature and Wildlife Habitat Center, take your class on a virtual tour of the Eastman nature trail at <http://www.eastman.com/EastmanOutdoors/trail.htm> The trail guide developed by Dr. Eric Taylor will give your students an opportunity to learn about the many different trees along the Eastman nature trail.

In the Field

Living and Non-Living

1. Prior to leaving your school make sure you have the following items.
 - Discovery Books
 - Ziploc Baggies (1 gallon size)
 - Pencils (inexpensive mechanical pencils are excellent)
 - Compass
 - Thermometer
 - Water
 - First Aid Kit
 - Sack Lunch or light snack
 - Camera
 - Backpack
 - Hand lens or loupes
2. Before getting on the trail, remind students their observations and data collected will be used back in the classroom to create charts and graphs of their observations.
3. Set your behavior expectations before leaving the parking lot. Explain how students are to behave along the trail and in small groups. State specifically what behaviors you want to see along the trail. Remind students the higher their voices are the less likely they will see wildlife along the trail.
4. Distribute Discovery Books to students and record weather data observations. Teachers a gallon size ziploc baggie make an excellent container for pencils and Discovery Books during lunch or at the end of the day.
5. Walk through the gate and follow the trail. Remember to go slow and listen to your student's observations along the trail.
6. If you have enough adult supervision, divide your class into two groups. Have each group go in opposite directions along the trail. This will help reduce the noise level and also give your students an opportunity to share their observations when the class comes together at the halfway point. This is a good opportunity reinforce the idea that scientists share data too.

Post Eastman Activities

Living and Non-Living

- Take the living and non-living quiz at:
<http://www.usoe.k12.ut.us/curr/science/sciber00/7th/classify/living/quiz/livingqu.htm>
- Create a "big" book about your experiences at the Eastman Nature Trial.
- Have your students create charts and graphs of the data they collected. Compare the Eastman hula-hoop data with the data collected at your school. Have your students draw conclusions about their observations. Are there more living organisms on the Eastman property or your school's property?
- Have your students write a narrative about their experience at the Eastman Nature and Wildlife Habitat Center.
- Invite a Biologist to visit your classroom and discuss the importance of living organisms and non-living objects.
- Students create an "Environmental Report" based on their Discovery Book observations.
- Write a Haiku about their observations at the Eastman Nature and Wildlife Habitat Center.
- Where's Waldo is an excellent and fun activity to reinforce observation skills. A recent study found that people that can easily find Waldo make good Biologists.
- Student produced books about their observations.
- Maintain an Environmental Journal for 1 school year.
- Give each student a garbage bag and go outside and collect all non-living objects. Dispose of properly.

Living Organism Criteria

- Does my living organism use oxygen?
- Does my living organism grow and develop?
- Does my living organism need food to grow?
- Does my living organism reproduce?
- Does my living organism move? *

* Plants are the exception.

Living and Non-Living Data Sheet

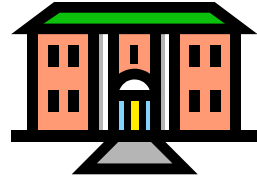
Names: _____

Date: _____

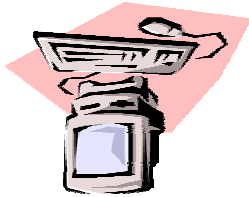
Place a mark for each **Living Organism** your team observes.

Place a mark for each **Non-Living** object your team observes.

Living and Non-Living Quiz



Living Organism or Non-Living Object?



Living Organism or Non-Living Object?



Living Organism or Non-Living Object?



Living Organism or Non-Living Object?

Resources

Publications

The Wise Woman And Her Secret by Eve Merriam
The Important Book by Margaret Wise Brown
What's Alive by Kathleen Weidner Zoehfeld
All About Seeds by Susan Kuchalla
The Dandelion Seed by Cris Arbo
One Bean by Anne F Rockwell
The Berenstain Bears Grow It: Mother Nature Has Such a Green Thumb by Stan Berenstain
The Tiny Seed by Eric Carle
Allison's Zinnia, by Anita Lobel
The Butterfly Garden, by Judith Levicoff
Growing Vegetable Soup, by Lois Ehlert
Bugs for Lunch by Margery Facklam
City Green by Dyanne Disalvo-Ryan
Field Guide for the Eastman Nature Trail by Eric L. Taylor, PH.D

Web Pages

Living and NonLiving Quiz

<http://www.usoe.k12.ut.us/curr/science/sciber00/7th/classify/living/quiz/livingqu.htm>

The Fantastic Forest

<http://www.nationalgeographic.com/features/96/forest/>

The Science Spot

<http://sciencespot.net/index.html>

Classifying Critters

<http://www.hhmi.org/coolscience/critters/critters.html>