
Photo: Sarah Klaus

Introduction to Conservation

What is Conservation?

- **Grade Level**
  4th Grade
- **Subject Area**
  Life Science
  Human Impacts
  Environmental Science
- **Key Topics**
  Conservation
- **Duration**
  Preparation: 10 min
  Activity: 50 min
- **Setting**
  Classroom
- **Skills**
  Critical Thinking
  Problem Solving

Overview

Students will be introduced to the topic of conservation through hands-on activities and discussions, as well as vocabulary words

Objectives

Students will be able to:

- Define conservation.
- Provide examples of natural, renewable, and nonrenewable resources.

Materials

- Bag or container
- An item to represent resources, one is needed per student.
  - Examples: Bag of marbles, playing cards, paper coins
- 2 - 4 Fly Swatters (one per each group)
- Whiteboard
- Dry Erase Markers

Advanced Preparation Background

- Write vocabulary words spaced out on a whiteboard.
- Put the items representing resources into a bag or container. Make sure you have only one ‘resource’ for each student.
- Print student and teacher worksheets.

Vocabulary

Resource - A supply of something that can be used for survival, recreation, or economic gain.

Natural Resource - A supply of something found in nature that can be used for survival, recreation, or economic gain.

Conservation - The act of preventing a resource from being wasted so it can continue to exist for future generations.

Natural Resource Management - The act of making decisions and rules about how we use natural resources such as land, water, air or soil so it can continue to exist for future generations.

Preservation - The act of maintaining something as it is.

Renewable Resource - A resource that can be replaced by nature through natural cycles.

Nonrenewable Resource - A resource that is not replenished (replaced) ever or is replaced more slowly than it is consumed.

Environment - The area or space in which something lives or exists.

Ecosystem - All living and nonliving things that interact with each other in the same environment.

Biodiversity - The variety of life in the world or in a particular habitat or ecosystem.

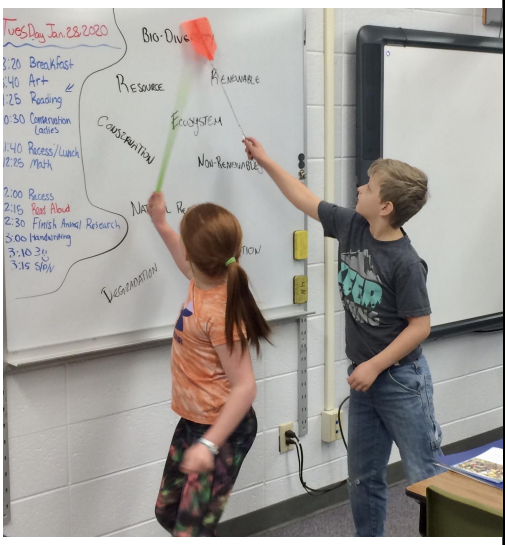
Procedures

Warm Up (5 minutes)

- Introduce the Junior Conservationist Program unit.
    - Background of the Junior Conservationist Program: This program was created by staff and Big Sky Watershed Corps members at the Lake County Conservation District. These lessons are designed to educate students about conservation and what they can do to help conserve natural resources in their communities.

Activities (30 minutes)

- Have students complete the vocab matching worksheet.(appendix A) Then, split class into two teams and play the fly-swatter game to further review vocab



<u>Fly Swatter Vocabulary Game</u>

- Write vocab words randomly spaced out on the white board and have kids form two lines. Hand the kids at the front of the lines a fly swatter. Read vocab definitions and whoever swats the correct word first gets a point for their team
- Then, the student will pass off the swatter to the next student in line and go to the back of the line.

Natural Resources Coin Game.

Background: The Natural Resources Game helps students understand the meaning of conservation by (1) explaining that if one or a group of community members overuse a natural resource in their area, there will be none left for the rest of the community; and (2)management of our natural resources can insure that there will be enough resources for everyone both now and in the future.

Before playing: Put one coin (representing a resource) per student in a bowl without students seeing how many are in the bowl. (See Appendix D for the coin print-out sheet.)

Rules/Procedures:

- Have students sit in a circle.
- Explain that each student is a community member and that the coins in the container represent all the natural resources they need to survive.
    - Have students brainstorm what those resources might be (water to drink, food to eat, plants for building materials, etc.), and take 3-4 answers.
- Explain that they are going to pass the bowl around. Explain that each student can take as many resources as they like but they need to have at least one in order to survive.
- Pass the bowl to the first student on your left. Tell them to take their resources and pass it on to the next student.
    - Students who have the container first will most likely take several coins, leaving none left for the rest of the students.
- Talk about what happened. Were there enough resources for everyone?
- Collect all the coins to repeat the game and see if there is a new outcome.Begin by passing the container the other direction so the kids who did not get any resources the first time get to start. After 1-2 times of passing the bowl around students will begin to understand that there aren't enough coins for everyone to take more than one.
- After the last round of passing the container around, ask students: How could we create a set of rules that everyone follows, so that each of us can have the resources necessary to survive? (**Each student just takes one coin to make sure there are enough for each student down the line)**
    - Let the students plan and discuss as a group, then pass the bowl around once more

Debrief:

- How were resources being used before and after the management plan?
- Explain how students practiced conservation in the game
    - Define conservation: ***The act of keeping something from being wasted so it can continue to exist for future generations.***
    - Define Natural Resource Management - ***The process of making decisions and rules about how we use natural resources such as land, water, air or soil so it can continue to exist for future generations.***
- What would life be like if we did not manage the way we use our resources?

Renewable vs Nonrenewable Resources Activity: (10-15 minutes)

Pass out student worksheets (Appendix C)

Introduction: Understanding what resources are available to you, where they come from, and how they are created in nature is essential to managing that resource wisely. Talk about availability, demand, and necessity.

- Ask students to brainstorm different resources and their uses, either in nature or by humans.
- Write these answers on the board.
- Define renewable and nonrenewable resources.
    - **Renewable** - A resource that can be replenished by nature over time through natural cycles.
    - **Nonrenewable** - A resource that is not replenished ever or is replaced more slowly than it is consumed.

Activity:.

- Ask students to raise their hand and name a resource. Once you write it on the board, have the students decide on their own if it is a renewable or non-renewable resource and tell them to write it on their worksheet. After, go over each resource as a class and put them in the right categories.

Discussion: *(This question is open ended and has a variety of answers.)*

- Which resources should we manage more carefully or should we manage all resources the same? ***Have students think about availability, demand, necessity.***

Wrap Up (15 minutes)

- Play Jeopardy as a review!

Teacher Resources

Appendix:

A. Vocabulary matching worksheet
B. Renewable vs Nonrenewable Answer Key
C. Student Worksheet (non-renewable vs renewable)
D. Coin print-out sheet
E. Jeopardy

Additional Info:

Renewable vs Nonrenewable resources brief powerpoint

Appendix A

Lake County Conservation District - Jr. Conservationist Program

Name _____

Date _____

A.	Resource
B.	Natural Resource
C.	Conservation
D.	Preservation
E.	Renewable Resource
F.	Nonrenewable Resource
G.	Environment
H.	Ecosystem
I.	Biodiversity
J.	Natural Resource Management

1. _____ The variety of life in the world or in a particular habitat or ecosystem.
2. _____ The area or space in which something lives or exists.
3. _____ A supply of something found in nature that can be used for survival, recreation, or economic gain.
4. _____ All living and nonliving things that interact with each other in the same environment.
5. _____ The act of maintaining something as it is.
6. _____ A supply of something that can be used for survival, recreation, or economic gain.
7. _____ A resource that is not replenished (replaced) ever or is replaced more slowly than it is consumed.
8. _____ The act of preventing a resource from being wasted so it can continue to exist for future generations
9. _____ A resource that can be replaced by nature through natural cycles.
10. _____The act of making decisions and rules about how we use natural resources such as land, water, air or soil so it can continue to exist for future generations.

Nonrenewable vs Renewable Answer Key (Appendix B)

Resource	Type	Details/Examples
Air/Wind*	Renewable	Uses - To breathe, Fuel/energy - Wind turbines Wind currents in some places are almost always constant.
Oil/ petroleum*	Nonrenewable	Uses - Fuel Over millions of years dead plants and animals get covered by silt, dirt and rocks. These layers put pressure and heat on these materials and turn them into oil.
Plants*	Renewable	Uses - Clothes, food, materials, habitat We can plant more plants to grow within our lifetime. Every year there is a cycle of new plants.
Soil*	Nonrenewable- cannot replenish in a human lifetime↟	Uses - Habitat, to grow crops in It takes 100 years depending on climate, vegetation, and other factors for an inch of topsoil to form.
Wildlife - Bison*	Renewable	Uses - Food, wool, dairy, materials, viewing Bison can live up to about 20 years and begin reproducing when they are about 2-3 years old.
Diamonds/ Gems*	Nonrenewable	Diamonds - Jewelry, mechanical equipment Diamonds are made under immense temps and pressure (2000 degrees F) and brought to surface by extreme volcanic eruptions, which don't occur today
Water*	Renewable; when managed properly	Uses - To sustain life, recreation, industry Water is renewed by the water cycle!
Sunlight*	Renewable	Uses - Fuel/energy: solar power, to sustain life The sun is always shining, unless obscured by clouds, volcanic ash, or smoke.
Paper - Plants*	Renewable	Uses - To document the written word, art. Paper is made from plants and can be grown within a human lifespan.
Apple/ Plants*	Renewable	Uses - Food Food crops can be grown every year.
Coal*	Nonrenewable	Uses - Fuel Takes millions of years to form. Coal is formed from heat and pressure deep underground from dead plants.
Gold - Metals/ Minerals*	Nonrenewable	Uses - Jewelry, money, building materials All the gold on Earth formed when Earth formed, gold cannot be made but just found.

* Means that the resource is a natural resource.

↟ You can make soil healthier in a human lifespan, but the making of actual soil takes so long that it is a nonrenewable resource.

Name: _____ Date: _____

Renewable Resources

Non-Renewable Resources

Renewable Resources

Non-Renewable Resources