

ACTIVITY 2.2: Renewable vs. Non-renewable (observing and identifying materials in nature)

Overview: In this lesson, students will classify, describe and sort natural and manmade materials using a variety of different methods. Students will identify the objects as renewable or nonrenewable based on their classifications.

Lesson Background

- Renewable natural resources are those that can be replaced naturally or through human-assisted actions within a relatively short amount of time (e.g., within a human lifetime). Examples of renewable natural resources are plants, animals, water, air, and some energy resources, such as sunlight.
- Nonrenewable natural resources are those available in limited or finite amounts and take millions of years to be replaced. Examples of nonrenewable natural resources are most minerals (e.g., iron ore or bauxite (aluminum) and some energy resources (e.g., fossil fuels).
- When people recycle and reuse natural resources it decreases the demand on these resources. Non-renewable resources can also be recycled and reused such as plastic and aluminum.

Instructions Part One (Discussion):

Before going to the outdoor learning space, write the terms renewable and non-renewable on the board. Students will share their definitions and provide examples of each.

Instructions Part Two:

1. Set up Stations: Disperse hula hoops in a large outdoor space on the ground. Place a variety of objects within the hula hoop, creating a diverse area for observation. At each observation area ask the student to use a different data collecting method. If the class-size is large, they can be broken up in to small groups and the observation areas run like stations with a time limit then rotating each group through. If the class is small each observation area can be done one at a time. The number of observation areas to be setup and which data collection methods to use can vary depending on how much time and resources are available.
2. Observation and Methods of Observation:

Grade Level:

3rd- 5th grade

Core Subjects: Science

Objectives: Students will be able to differentiate between renewable and non-renewable objects around them. They will do this by using different methods of collecting data

Time of year: Spring or Fall

Material/supplies:

- Dry erase board
- Hula Hoops
- Natural objects- stick, leaves etc
- Man-made objects- wrappers, etc
- Compostable objects- leaves, corn plastic etc
- "What do you see?" worksheet
- "Renewable or not?" worksheet
- Markers, crayons, pens, pencils
- Blindfold

- **Drawing the objects**-give students marker/crayons/colored pencils and the “what do you see?” worksheet and ask them to draw what’s in the hula hoop.
- **Listing the objects**- give them a pen/pencil and the “what do you see worksheet?” and ask them just to list the objects that are in the hula hoop.
- **Using only adjectives**- You can do this individually by having them just write on the worksheet or as a group. As a group, have each student take a turn and orally describe an object in the hula hoop, only using adjectives (bumpy, soft etc..) Then have the others in the group guess what the object is
- **Blindfolded sensory description**- Depending on how many blindfolds are available this can be done as a group or in partners. While blindfolded, ask the students to describe how an object in the hula circle sounds, smell, feels and if possible tastes.
- **Color coding**- Give students multiple colors (pens, pencils, crayons) Assign a different color to things that are renewable, non-renewable, man-made, natural and compostable.

Part two:

Using the data collected on their worksheet. Have the student fill out the “Renewable or Nonrenewable?” worksheet. This worksheet will ask students to identify whether an object is natural or manmade or renewable or nonrenewable. Students are also asked whether the objects can decompose naturally. The purpose of the worksheet is to give students a wide range of objects and observe the connections of natural materials, renewable resources with those that can decompose.

This activity will lead into further discussions of renewable resources and decomposition. Other complimentary lesson plans: [Soil Lasagna](#), [Building Compost Bins](#) and [Renewable vs. Non-renewable Part I](#)