

Renewable and Nonrenewable Resources

Overview

Students will explore outside how humans use natural resources in their schoolyard. They will then create posters to display their learning.

**Lesson
Planner**

Time Required	1 hour
Key Concepts/Terms	Natural resources, Renewable resources, Nonrenewable resources
Prerequisites	<ul style="list-style-type: none">• Knowledge of how to create a concept map• Knowledge of expectations for outdoor classroom conduct.
Setting	<ul style="list-style-type: none">• 10-minute field study outside• Remainder of lesson inside

Standards

MD VSC 5th Grade Science
6.A.1. Recognize and explain how renewable and nonrenewable natural resources are used by humans in Maryland to meet basic needs.

Objectives

Students will create a poster to display how people use renewable and nonrenewable natural resources.

**Materials
Required**

- Clipboards with notepaper or notebooks
 - Pencils
 - Poster paper
 - Science textbook (optional)
 - Cards of natural resources (either enough for each group to have a set, or one set for the whole class)
 - Markers
 - Chart paper
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**Background
Information**

The following are specific objectives from the VSC that should help guide the lesson and student discussion.

6.A.1.a. Identify and compare Maryland's renewable resources and nonrenewable resources.

6.A.1.b. Describe how humans use renewable natural resources such as plants, soil, water, animals.

6.A.1.c. Describe how humans use nonrenewable natural resources such as oil, coal, natural gas, minerals, including metals.

Procedure

Follow the steps in the table below to conduct the activity. **Sentences in bold are suggestions for what teachers might say to students.** *Items in italics are possible teacher answers to questions.*

Phase	Step	Action
Engage		<p>Ten Minute Exercise: Introduction to concept maps/outdoor learning.</p> <p>If students are unfamiliar with concept maps and/or using the schoolyard as a classroom, begin by creating a concept map together as a class to go over rules and expectations for learning outside.</p> <p>As you go through the concept map, think aloud for how you are choosing where to draw your bubbles to connect different concepts on the map. For instance,</p> <p>“I am going to write the idea first and then put a bubble around it to make sure my bubble isn’t too big or too small for my information.”</p> <p>Or</p>
	1	<p>“I am going to connect this idea to that one instead of the main topic since they are related.”</p> <p>Or</p> <p>“That’s a good idea! Where would you connect that idea on our concept map?”</p> <p>Have in mind some expectations for outdoor learning specific to your schoolyard that you want to be sure students include. For instance,</p> <ul style="list-style-type: none"> • <i>Regular school rules still apply (respect each other, listen to the speaker, follow directions, etc.)</i> • <i>No yelling, screaming, tapping on/waving into windows that will disrupt class learning inside the school building.</i> • <i>“Look, learn, and let go” when you see insects.</i>

	2	<p><u>Ten-Minute Review</u></p> <p>Review with students what “natural resource” means.</p> <p>Then, choose:</p> <ol style="list-style-type: none"> 1. Distribute one set of resource cards to each group and have them sort them according to similar characteristics. 2. On the board, draw a line. Begin sorting the cards onto different sides without labeling the columns (in your head, you know that one side is renewable and one is nonrenewable). Once students think they know how you’re sorting the cards, have them raise their hands and describe what they think. Write down ideas they have that are correct. Once they get it, elicit their help in sorting the remainder of the cards. <p>Either way, be sure to demonstrate that some of the cards list renewable resources and some list nonrenewable resources. Discuss what those terms mean. Can students think of other examples?</p>
Explore	3	<p><u>Directions (5 minutes)</u></p> <p>Have students set up their notepaper (name, date, etc.). Give students directions for what to do outside. They should work in small groups, pairs, or individually.</p> <p>“When outside, you will be looking for evidence of humans using natural resources. Draw a picture or make of list of the evidence you see. You may work as a group, partners, or individually.”</p>
	4	<p><u>10-Minute Field Study</u></p> <p>Bring students outside. Keep track of the time, giving students ample warning for when it’s time to head back in. Give students prompting if needed to find renewable and nonrenewable resources being (or that have been) used.</p>

Explain	5	<p><u>Lists</u> (10 minutes)</p> <p>Once back in the classroom, have students create a group list organized by renewable and nonrenewable resources of how humans use their natural resources. They should begin by using their lists/pictures they generated outside but they may add additional ideas if they so choose. If there is time, ask students to share their lists together with the class.</p>
Evaluate	6	<p><u>Posters</u> (10 minutes)</p> <p>Have students choose one way that humans use a nonrenewable resource. Each student will create a poster that shows people using the nonrenewable resource and then suggests an alternative (reduce, reuse, recycle, using alternative fuel sources, etc.)</p>
Elaborate	7	<p>Post the posters in the building or in the community as a way for students to educate a wider audience about the choices we humans make when it comes to using nonrenewable resources.</p>

Vocabulary

Understanding of the following terms is required in this activity.

Term	Definition
Natural Resources	Something from the natural environment (water, air, trees, fuels) that is used to meet one's needs and wants.
Renewable Resources	Resources that can be replenished, such as trees and plants.
Nonrenewable Resources	Resources that can be depleted, such as coal, oil, and minerals.

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Plants



Soil



Animals



Water





Oil

(Petroleum)



Coal



Natural

Gas



Minerals

including
Metals