



Renewable Resources

Lesson 2: “The Make”

Student Handout

Directions

Humans use many resources in the environment, but some are more limited than others. Because resources vary in how quickly and readily they can be remade, they are categorized as either “renewable” or “nonrenewable” resources.

Think back to the mystery of the differences between renewable and nonrenewable resources. You might remember that oil is a nonrenewable resource and wind is a renewable resource.



Your “Make” task today is to:

1. Research a renewable resource.
2. Research a nonrenewable resource.
3. Create a full-color annotated diagram to compare and contrast the formation, distribution and use of each resource.



Planning Organizer

1. Brainstorm: What resources did Mosa Mack learn about in her mystery?

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2. As a group, come up with a definition for nonrenewable resources and renewable resources. Then, research different types of resources for each and select one to research further.

	Nonrenewable Resource	Renewable Resource
What is your group's definition?		
Which resource will your group research?		

3. Research your selected resources to learn how each resource is distributed throughout the world and how this impacts the environment and society.

	Nonrenewable Resource	Renewable Resource
How is this resource distributed throughout the world?		
How does the distribution of this resource impact the environment and society?		



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4. Draw a sketch of each resource “cycle” below. Your resource cycle should include information about how the resource forms, how much time it takes for the resource to form, how it is used, and how it is returned back to nature. *Hint: The [Water Cycle](#) is an example of a resource cycle.*

Nonrenewable Resource
Renewable Resource



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5. Compare and contrast your cycles. What similarities and differences exist between your nonrenewable and renewable resource cycles? Record your data below.

Similarities	Differences

Final Display

Construct a full-color annotated diagram to compare and contrast your resources. You may use a separate digital document, slideshow, paper, or poster board to present your information. Be sure to include the following information:

- Name of nonrenewable resource
- Name of renewable resource
- Sketch of nonrenewable resource cycle
- Sketch of renewable resource cycle
- Explanation of how each type of resource is distributed throughout the world. *Hint: As a visual aid, you may include maps showing the distribution of your resource.*
- Explanation of how each type of resource impacts the environment and society



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Name: _____

Date: _____

Exit Ticket

1. How is a nonrenewable resource different from a renewable resource?
2. Why does it matter if resources are overused?
3. Why does it matter if resources are unevenly distributed throughout the world?
4. Which type of resource do you suggest is better for humans to use? Why?
5. Brainstorm what you could do to help reduce overuse of limited resources.



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Make Assessment

Use the checklist and Science & Engineering Practices rubric to ensure you have addressed all aspects of the “Make” with quality work.

Renewable Resources Make Checklist: Content Concepts and Practices

Your Challenge: Compare a nonrenewable resource with a renewable resource and explain how each resource is distributed throughout the world

Project Completeness:

- Completes research questions for each chosen resource
- Compares the difference between nonrenewable and renewable resource cycles
- Diagram design is well-organized, neat, and in color with relevant annotations

DCI Standards Checklist:

- Includes one example of a nonrenewable resource
 - Accurately describes a nonrenewable resource as a resource that cannot be replaced in a reasonable amount of time
 - Explains how this resource is distributed throughout the world and how this impacts society and the environment
 - Accurately depicts in a visual diagram how this resource cycles through the environment
- Includes one example of a renewable resource
 - Accurately describes a renewable resource as a resource that can be replaced in a reasonable amount of time
 - Explains how this resource is distributed throughout the world and how this impacts society and the environment
 - Depicts in a visual diagram how this resource cycles through the environment

	Emerging (1)	Developing (2)	Proficient (3)	Advanced (4)
Developing & Using Models	Drawings, diagrams, or visual models include major misconceptions or have missing parts. Explanation of the model is minimal or not present.	Drawings, diagrams, or visual models include minor misconceptions or have missing parts. Explanation of the model is minimal.	Drawings, diagrams, or visual models are complete, but contain a minor misconception. Explanation of the model is complete but lacking complexity.	Drawings, diagrams, or visual models have no misconceptions and contain all details. Explanation of the model is complete and complex.
Constructing Explanations or Arguments From Evidence	Constructs an explanation with no clear sources of evidence.	Uses scientific principles and/or data from at least one source to construct or evaluate an explanation, but explanation contains minor misconceptions.	Uses accurate but incomplete scientific principles and/or data from multiple sources to construct or evaluate an explanation.	Uses accurate and complete scientific principles and/or data from multiple sources to construct or evaluate an explanation.