

Sustainability Lesson - Renewable/Nonrenewable Energy Sources

GOAL: Students will learn that energy can either come from a renewable or nonrenewable source and learn about the effects that burning fossil fuels has on our planet. Students will learn about potential solutions to not burning/using as many fossil fuels in their own lives.

Essential Questions:

1. What is a renewable source?
2. What is a nonrenewable source?
3. How does burning nonrenewable energy sources affect our environment?
4. What are some solutions to not using fossil fuels?

Standards:

Standards

4-ESS3-1: Earth and Human Activity - Obtain and combine information to describe that energy

and fuels are derived from natural resources and that their uses affect the environment.

[Clarification Statement: Examples of renewable energy resources could include wind energy,

water behind dams, and sunlight; non-renewable energy resources are fossil fuels and fissile

materials. Examples of environmental effects could include loss of habitat due to dams, loss of

habitat due to surface mining, and air pollution from burning of fossil fuels.]

SS3.A (4-ESS3-1): Disciplinary Core Ideas: Natural Resources - Energy and fuels that humans

use are derived from natural sources, and their use affects the environment in multiple ways.

Some resources are renewable over time, and others are not.

MAIN STANDARDS

4-ESS3-2: Constructing Explanations and Designing Solutions - Generate and compare multiple

solutions to a problem based on how well they meet the criteria and constraints of the design

solution.

Literacy Common Core Standards Connections: RI.4.1 Refer to details and examples in a text

when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2)

People make decisions based on their needs, wants, and the availability of Resources.

6.1.4.C.1 Apply opportunity cost (i.e., choices and tradeoffs) to evaluate individuals' decisions, including ones made in their communities.

6.1.4.C.2 Distinguish between needs and wants and explain how scarcity and choice influence decisions made by individuals, communities, and Nations

Introduction: Students will log into [Nearpod](#) (link is posted in google classroom and sent in the ZOOM chat). We will review the goal and the essential questions of the lesson. Students will watch a [video on the production of a plastic spoon](#) - discuss all the resources needed to make a single use plastic spoon. Students will write responses on a collaborative board in nearpod.

Lesson: Students will watch a [video on renewable energy/ non renewable energy sources](#). Students will list 4 ways they use energy (focus on the past 2 hours this morning) and then brainstorm ways they can reduce their energy use.

Individual Activity - Draw and label 4 different ways we use energy. Describe what a non - renewable energy source is and describe what a renewable energy source is.

Partner Activity #1: - 2-3 students assigned a type of renewable energy source and created a slide (What type of energy, how is it used, and included a picture). Students presented slides to the class.

Partner Activity #2: [Video](#) on the use of fossil fuels. Students will write the problem with burning fossil fuels and come up with 3 solutions. Then create a [flipgrid video](#) - describing their solutions.

Wrap up - Students will share their flipgrid video with solutions to reduce their usage of fossil fuels.