

Energy Conservation

LEVEL: Grades K-3

SUBJECTS: Science, Mathematics, Language Arts

SKILLS: Analyzing, applying, comparing similarities and differences, observing, understanding cause and effect, concluding

NOTE

This is a curriculum designed for use with an interactive whiteboard. Many aspects of the curriculum can be used without an interactive whiteboard, it is not mandatory that a classroom have that technology in order to properly use this curriculum.

MATERIALS

To be determined.

CONCEPTS

Energy Conservation is reducing the amount of energy used. This curriculum will teach students about ways in which they can conserve energy. Students will make decision within a group setting that will impact their school. They will write a letter to their school superintendent outlining their discussed plan. The students will be introduced to the concepts of water conservation, reuse, reduce, and recycle, and the importance of taking care of earth.

SUPPORTING INFORMATION

Energy Conservation is an important concept that must be understood by the young mind. The majority (93%) of the energy used in the U.S. is nonrenewable energy sources therefore, students need to understand the urgency in conserving energy and being good stewards to the land in which they live.



BRIEF DESCRIPTION

Students will learn the connection between energy and the environment. Students will understand the impact of each energy source on the environment. Students will actively engage in energy conservation practices through school and home.

OBJECTIVES

The students will:

- Understand the importance of conserving energy;
- Understand the 3 R's: Reuse, Reduce, Recycle
- Learn about ways in which they can conserve energy daily;
- Practice conserving energy in the classroom and at home.

ESTIMATED TEACHING

TIME

Session 1: 30-60 minutes

Session 2: 30-45 minutes

Session 1

PROCEDURE

Ask the students what they think about when they hear the words Energy Conservation. Brainstorm some ideas. Energy Conservation is reducing the amount of energy used. Click on the video on Notebook page 2 the watch a video clip on Energy and the need to conserve.

Notebook
Page 2

Notebook page 3 reviews the concept of Renewable Energy. Renewable means able to be made new again. Therefore, renewable energy sources can be made and used again quickly. Renewable energy sources are: sun (solar), wind, water (hydroelectric), biomass (using items like garbage, manure, corn, etc. to make energy), and geothermal (heat within the earth). They are called renewable energy sources because they can be replenished in a short amount of time. We use renewable energy resources mainly to make electricity.

Notebook
Page 3

Energy resources are considered nonrenewable if they cannot be replenished (or made new again) in a short period of time. The main non-renewable energy sources are petroleum (gasoline, diesel fuel, propane), coal, natural gas, and uranium (nuclear energy). Petroleum, coal and natural gas are considered “fossil fuels” because they were formed deep within the earth many years ago.

Notebook
Page 4

Look at the statistics on Notebook page 5. Have the students discuss the question, “If the U.S. uses 93% nonrenewable energy sources do you think we will eventually run out?” “Why or why not?”

Notebook
Page 5

Notebook page 6 is a K-W-L chart in which the students can discuss what they Know about Energy Conservation in column one. They can discuss what they Wonder or Want to know about Energy Conservation in column two. Column three can be completed at the end of the lesson.

Notebook
Page 6

Notebook Page 7 begins our discussion on Energy Conservation. Ask the students for their ideas on things they could do to conserve energy. Use the link (located on the bottom of page 7 to go to an Energy Star Kids website. Once at the website, click on “you can make big changes, find out how.”

Notebook
Page 7

Notebook Page 8 is about the 3 R’s of energy conservation. The 3 R’s is a very famous term used to describe the three ways one can help conserve energy. **Reuse** old items; donate or repair them if broken. **Reduce** the amount of waste you produce. **Recycle** as much as possible and buy recycled products to support recycling. Click on the video on page 8 to watch and listen to a catch song about the 3 R’s of energy conservation.

Notebook
Page 8

Notebook Page 9 is about REUSE. Talk with the students about the need to use things more than once. For example, wash out your plastic sandwich bags and reuse. Buy used toys and give them away or sell them when you are done with them. Wash out plastic water bottles and reuse, Brainstorm with the students about other ways in which you can reuse items.

Notebook
Page 9

Notebook Page 10 is about REDUCING the amount of waste we produce. A good way to save money is by not wasting things. Do not use paper plates or other paper products unless absolutely necessary. Use a lunch box instead of a paper/plastic bag. Buy one large bottle of juice instead of six smaller bottles. Reducing waste saves energy.

Notebook
Page 10

Notebook Page 11 is about recycling. You can recycle many things ... cans, paper, glass, and plastic. It only takes minutes to recycle and it saves energy. Plastic bottles can be recycled into clothes and rugs, and

Notebook
Page 11

Notebook
Page 11
cont'd

paper can be recycled into boxes and bags.

Notebook
Page 12
and 13

Notebook Pages 12 & 13 are interactive games testing the knowledge students have in regards to Energy Conservation.

Notebook
Page 14

Notebook Page 14 introduces the opportunity to write a persuasive letter to your school superintendent. In this letter the students should outline two areas in which the school could make improvements in the area of energy conservation.

ADDITIONAL RESOURCES AND CREDITS

KidWind Wind Energy Science Education. <http://www.kidwind.org/>

Energy Kids: U.S. Energy Information Administration. <http://www.eia.doe.gov/kids/>

National Energy Education Project. <http://www.need.org/>

Energy Star Kids. http://www.energystar.gov/index.cfm?c=kids.kids_index

NYS Learning Standards

- 7.1a Humans depend on their natural and constructed environments.
- 7.1b Over time humans have changed their environment by cultivating crops and raising animals, creating shelter, using energy, manufacturing goods, developing means of transportation, changing populations, and carrying out other activities.
- 7.1c Humans, as individuals or communities, change environments in ways that can be either helpful or harmful for themselves and

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