



ENERGY SOURCE WEBQUEST

NEED

ENERGY CONSUMPTION AND CONSERVATION

Time Frame:	Standards:
2-4 hours Depends on preparation time, and length of presentations	8-9.ES.4.2.1 Explain the internal and external energy sources of the earth (654.02a) 8-9.ES.5.1.1 Analyze environmental issues such as water and air quality, hazardous waste, and depletion of natural resources. (656.01a) 8-9.ES.5.3.1 Describe the difference between renewable and nonrenewable resources. (656.03a)
Objectives:	
Students will learn about energy sources using web-based resources and create PowerPoint presentations to teach other students.	
Background Information:	
There are ten major energy sources used in the United States today. <ul style="list-style-type: none">• Coal• Oil• Natural Gas• Nuclear• Propane• Wind• Solar• Hydro Power• Geothermal• Bio-energy	
Energy is a part of every aspect of our lives. It is important to learn about energy and its impact on our society.	
Materials:	
Computer lab with access to the internet and presentation software such as PowerPoint.	
Procedure:	
<ol style="list-style-type: none">1. Students in groups of two will be assigned an energy source.2. Student groups will use the computer lab to research information about their energy source, using the web resources listed and other sources that they are able to find.3. Student groups will use the computer lab to create PowerPoint presentations on their energy source. The presentations will include:	

Energy for Educators

Bringing Energy into the Classroom



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- Title slide
- Eight-to-ten slides that provide the following information about the energy source:
 - description of the energy source, including renewable or nonrenewable
 - history of the energy source
 - where the energy source is found and how it is recovered
 - how energy is stored in the source and how the energy is released
 - how the energy source is used today
 - advantages and disadvantages of the energy source
 - economic impacts of the energy source
 - environmental impacts of the energy source
 - future of the energy source • other interesting facts about the energy source
- Resource listing slide

4. Student groups will present their projects to the class.

Assessment:

Students will evaluate each group using a 1 to 5 rubric which includes knowledge of the energy source, content of the presentation, level of participation in the research and presentation, and design and creativity of the presentation.

Additional Content:

List of links to help with energy source research.
Grading rubric

References:

Lesson taken from the Need Project and available at
<http://apps1.eere.energy.gov/education/lessonplans/plan.cfm/lpid=210>

Coal:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Oil:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Natural Gas:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Nuclear:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Propane:

<http://www.eia.doe.gov/kids/energyfacts/sources/non-renewable/propane.html>, Energy Information Administration

http://www.afdc.energy.gov/afdc/fuels/propane_basics.html,

Wind:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Solar:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Hydro Power:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Geothermal:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

Bio-energy:

<http://www.eia.doe.gov/kids/index.html>, Energy Information Administration

<http://www.powerscorecard.org/technologies.cfm>, Rate environmental impact of energy production

	1-2 points	3-4 points	5 points	Points
Knowledge of the energy source	<ul style="list-style-type: none"> • Is unable to answer simple questions 	<ul style="list-style-type: none"> • Has weak spots in knowledge of energy source 	<ul style="list-style-type: none"> • Able to answer all reasonable questions 	
Content of the presentation	<ul style="list-style-type: none"> • Missing 5 or more main points 	<ul style="list-style-type: none"> • Missing 1-4 main points 	<ul style="list-style-type: none"> • Presentation contained all required content 	
Level of participation in the research and presentation	<ul style="list-style-type: none"> • Little or no participation in research and presentation 	<ul style="list-style-type: none"> • Participated in only research or presentation • Did not participate fully 	<ul style="list-style-type: none"> • Participated fully in research and presentation 	
Design and creativity of the presentation	<ul style="list-style-type: none"> • Difficult to understand • Slides are cluttered and unorganized 	<ul style="list-style-type: none"> • Minor problems with flow of presentation • Some slides are a little cluttered or difficult to understand 	<ul style="list-style-type: none"> • Flows well • Slides are not too busy • Presentation looks professional 	
Total				