

Activity-Energy Sources Research

Purpose

Although most of the energy consumed in the United States comes from fossil fuel sources, there are many other potential sources of energy available. In all cases, there are pros and cons to our use of these sources. Some of the energy sources are limited by their availability or environmental impact; others need technological improvements before they can become widely used. For scientists and engineers, research is the best way to learn about unknown topics. Today we will examine information about energy sources and how those sources are used to produce electrical energy. We can use this information to help us understand the various pros and cons that affect our use of different energy sources. In this activity, each group of students will begin to become an expert on one aspect of each source of energy and report their findings back to the class.

Procedure

1. Break into a group of 3 students.
2. Choose or accept an assignment to research one particular question about each source of energy.
3. Using the provided information packet, find the answer to your question for all seven energy sources.
4. If additional information is required and you have access to the internet, try:
 - i. <http://www.howstuffworks.com/>
 - ii. <http://howthingswork.virginia.edu/>
 - iii. <http://www.how-things-work-science-projects.com/>
 - iv. <http://www.eia.doe.gov/kids/energyfacts/index.html>
5. Once you have answered your question for all seven sources, answer the two conclusion questions.
6. As a class we will fill in the energy sources chart based on your findings.

Research Questions

1. What is this energy source? Where can we find it?
2. How do we harness the energy? (How does it work?)
3. Are there different types or uses of this source? If yes, what are the differences?
4. What are the environmental impacts of your energy source?
5. What are the economic impacts of your energy source? How much does it cost per kWh?
6. What countries currently use this source? What percentage is used in the United States?
7. How is this energy source currently used? For example: At farms, in industry etc. Could this source be used in a family home?

Research Answers

Your Energy Question: _____

1. Biomass

2. Fossil Fuels

3. Geothermal

4. Hydropower

5. Uranium

6. Solar

7. Wind

Discussion Questions

1. If you had to choose an energy system to tell your community about based only on the aspect you researched, which system would you choose? Why?

2. Why do we as a nation depend so much on fossil fuels? **AND** What do you think we could do to reduce this dependence on fossil fuels?

While listening to the other groups in your class present their information, list some “pros” and “cons” of using their energy source to solve your problem.

Energy Source	“pros”	“cons”
Biomass		
Fossil Fuels		
Geothermal		
Hydropower		
Uranium		
Solar		