

Renewable Energy Resources

Grade: Eight through Twelfth Grade

Subject: Language Arts, Science, Social Studies, Economics

Objectives: Investigate a variety of renewable energy resources, as well as the benefits and drawbacks of each.

Standards:

- Utilizes print and electronic resources to generate data. Demonstrates proper grammar and usage. Cites research using the MLA guidelines. Effectively presents to an audience.
- Identifies energy sources.
- Recognizes factors that influence voter's decisions.
- Understands the nature and functions of product markets.

Procedure: Students will go online and read articles (keywords: renewable + energy + resources + community) to answer the following questions related to renewable energy resources:

1. What are the environmental benefits of renewable energy?
2. How much would it cost a household to adapt to using or installing renewable energy strategies?

After students have read the articles, ask the students the following questions:

1. Why do these reports suggest that communities should begin to look at alternative energy resources?
2. There were [five] sources of energy described on [this site]. What are they?
3. What are the benefits of using renewable energy technologies?
4. Why aren't some renewable resources widely accepted today?
5. What is meant by "environmental costs" and "social costs?" What are examples of each?
6. What energy resource is the cheapest in the long run? In the short run?

Divide students into teams of five. Each team will be responsible for researching one of the following: solar, wind, geothermal, biomass and hydropower. Distribute the activity hand-out and explain the entire scope of the lesson to students. Explain the final product (the vote), as well as all steps leading up to that.



Worksheet:

Renewable Energy Resources

In this activity, you will investigate various alternative energy sources and, at the conclusion of the lesson, vote on a new type of energy to be adopted by the “town.”

There are several steps, with the following guidelines and due dates.

1. You will be placed into groups of five members to research one of the following energy sources as assigned: solar, wind, geothermal, biomass or hydropower. As a group, you will write a one-page summary of the energy source and prepare a presentation for the class.

The following ideas should be included in your summary/presentation:

- a. How does this technology work?
- b. How could this energy source be used?
- c. What are some examples of its current use?
- d. What are apparent environmental impacts associated with this?
- e. Are there hidden environmental and social costs?
- f. Is this technology widely accepted today? Why or why not?
- g. Does the cost of this technology make it prohibitive for common use? Why or why not?

The due date for the summary is _____, and the due date for the class presentation is _____.

2. After listening to all class presentations, you will write a “community news article” in which you choose the type of alternative energy you feel would be the easiest to implement in widespread use. You will use persuasive writing, for you will ultimately be trying to persuade other members of the community to adopt this alternative energy source. You should defend your choice using information learned in this lesson.

The due date for the article is _____.

3. Then you will participate in a mock “town hall meeting” in which students will be advocates for particular energy sources. You will discuss and debate the various alternative energy sources and, at the end, participate in a class vote to determine what type of alternative energy the “town” will adopt.

The town hall meeting and vote will be on _____.

