

Lesson Plan: Energy Source Pros/Cons Activity

Grade Level: 4th Grade

Subject: Science

Time: 2- 50 minute sessions

Standards:

4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and 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.]

Objective: Students will be able to identify and explain the environmental and economical advantages and disadvantages of the major energy sources.

Assessment:

Rubric:

4- Standards are exceeded

3- Standards are met

2- Standards are partially met

1- Standards are not met

Materials: Internet access and/or printed material about energy sources. Pros/Cons graphic organizer.

Vocabulary: Renewable energy, Non-renewable energy, Hydropower, Geothermal energy, Solar energy, Wind Energy, Fossil Fuels (coal, oil, natural gas)

Procedure:

Day 1: Discuss different sources of energy. Explain what renewable (comes from a source that can be constantly replenished) and nonrenewable (don't replenish and are formed when prehistoric plants and animals died and were buried by layers of soil/rock) energy sources and make a class list of examples of each type. Show students the following video, [Harnessing The Headwaters: First Dams of the Mississippi](#).

Day 2: Use the list of sources of energy and have students form groups and choose an energy source to defend/research. Each energy source is only used by one group (do not have more than one group choose the same topic). Groups will make a pro/con chart while researching their topic.

When groups are done with their lists, they will present their energy source to the class and try to convince the teacher (and other adults in the room) that their source of energy is the best

economically and/or environmentally. Allow other groups to debate with the presenting group about the pros and cons of their topic.

After all groups have had a chance to defend their topic, choose the winner and explain what convinced you.

Follow-up Discussion:

Have students explain what they understand better about the different types of sources of energy. Questions that can be asked: What do you think the ideal combination of sources are? Is there one perfect solution? Should there be any types of energy sources not allowed? Why? Why not?

Additional Websites:

[Energy Resources and Energy Transformations Flashcards | Quizlet](#)

[Pros & Cons Organizer-Reproducible-Template - Google Docs](#)