



## What is Renewable Energy and Why is It Important?

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**DESCRIPTION:** Students learn about renewable energy sources through a read-aloud of Loreen Leedy's The Shocking Truth about Energy. Students use Internet sources to obtain more information about alternate sources of energy. They complete a reflection to synthesize the information they have gathered.

**GRADE LEVEL(S):** 3, 4, 5

**SUBJECT AREA(S):** Science, ELA

**ACTIVITY LENGTH:** 2-3 hours

### **LEARNING GOAL(S):**

- Students will be able to list and describe the main natural resources that people get energy from.
- Students will be able to describe the affect the use of different sources of energy has on the environment.
- Students will be able to describe the advantage of renewable sources of energy.

### **STANDARDS MET:**

#### **Common Core:**

- CCSS 4.RI.9 Integrate information from two texts on the same topic in order to write or speak about it knowledgeably.

#### **Next Generation Science 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.

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### Educator Background:

- Solar and wind energy are considered renewable energy because they come from sources that can easily be replaced, unlike oil, gas and coal.

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## Other Materials List:

- Leedy, Loreen. 2101. The Shocking Truth about Energy. Holiday House.
- Chart labeled “Renewable Energy” and a marker
- Handouts 1 and 2 (Print a class set, plus one for the teacher to use for modeling.)
- Optional: Laptop projector, SmartBoard, or computer lab access to preview Energy Kids web site (<http://www.eia.gov/kids/>)

## Vocabulary:

- Renewable – able to be replaced in a reasonable amount of time
  - Source – the place where something comes from
  - Transform – to change from one form to another
  - Solar energy - the radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.
  - Nuclear energy – energy that comes from splitting or combining the nuclei of atoms
  - Hydropower – energy that comes from moving water
  - Fossil fuel – fuels like coal, oil and natural gas that come from the breakdown of ancient plant and animal life over millions of years.
  - Fuel - any material that can be burned to release energy.
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## Lesson Details:

### Part I: The Shocking Truth about Energy

- Display the chart and discuss the meaning of the phrase renewable energy. Solicit student ideas about what the word means. What ideas do students have about what sources of energy are renewable? Record student thinking on the chart.
- Preview the cover of The Shocking Truth about Energy. Why do students think the author chose that title?
- Tell students that we are going to read this book and do our own investigating on the internet to learn about the sources of energy people use every day.
- Turn off the classroom lights. Ask the students about what they think the source of energy powers the lights in the classroom? After several responses, ask them if those energy sources are renewable and why?
- Read aloud The Shocking Truth about Energy.
- While you are reading, list on the board some of the sources of energy in the book and whether or not they were renewable.
- After reading. Why is it important for people to consider renewable sources for our energy?

## Part II: Researching Renewable Energy on the Internet.

- Bring the class to where they can preview the Energy Kids web site or another web site comparing sources of energy.
- Pass out **Handout 1** and discuss how we will use the chart to record notes on different sources of energy. Remind students that notes do not have to be complete sentences and they should be in their own words.
- Model how you might find information on the internet and use it to fill in the chart. For example, if you are using the Energy Kids web site (<http://www.eia.gov/kids/>) you can show them that by clicking on Energy Sources and finally on Hydropower they can access information on hydropower. Also, review with them how they will use this information to write a reflection about what energy sources people use and their recommendations.
- Students work independently or with a buddy to complete the chart in **Handout 1**.
- Note: If computer access at school is limited, the assignment can be completed at home. The chart can also be completed during a second reading of The Shocking Truth about Energy.

## Part III: Reflecting on the Information Gathered

- Preview the questions on **Handout 2** with the class:
  - Describe what natural resources are needed for people to get energy.
  - What are some of the effects that energy sources have on the environment?
  - Which sources would you recommend that people use more?
- Have the students share their ideas about answers to the questions with other students sitting near to them prior to writing.
- Ask for volunteers to share their own answers to the 3 questions with the class.
- Model how students can look at their notes from **Handout 1** to give them more details about the advantages and disadvantages of different sources of energy. Allow students time to write answers to the questions.
- Closure: When the assignment has been completed, take a survey of the class to see which energy source students thought people should use more of. Record the children's votes with tally marks.
- If you are teaching a full unit, tell the students that in the following weeks, we will be able to experiment with engineering with some renewable sources of energy including solar energy.