I. What is nonrenewable energy?

🡪Go to the United States Energy Information Administration site:

<http://www.eia.gov/kids/index.cfm>

 🡪 Click on *Energy sources* then each of the renewable resources to fill in the chart

🡪Click on the links to Coal, Oil, Natural Gas, and Nuclear and fill out the following chart:

|  |  |  |
| --- | --- | --- |
| Nonrenewable Energy Resource | Description | Environmental Impact |
| COAL |  |  |
| OIL |  |  |
| NATURAL GAS |  |  |
| NUCLEAR |  |  |

A. What does the word “petroleum” mean? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe crude oil and where it is found. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the five top crude-oil producing countries? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What percentage of oil is brought in from outside countries to supply United States demand for oil? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

E. What is the leading cause of sources of petroleum in North American Waters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

F. What country has the largest known coal reserves in the world? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ How many states is coal mined in? \_\_\_\_\_\_\_\_\_\_\_

1. What percentage of nuclear electricity is generated in the U.S.? \_\_\_\_\_\_\_\_

2. Next, go to the Environmental Literacy Council Web site:

<http://www.enviroliteracy.org/>

🡪Click on *Energy* on the left menu and then Click on *Fossil Fuels* on the right menu.

🡪Answer the following questions:

1. What are some advantages of using fossil fuels?
2. Why do experts describe the rate of fossil fuel use as “unsustainable”?
3. What is renewable energy?

🡪 Go to the United States Energy Information Administration site:

<http://www.eia.gov/kids/index.cfm>

🡪 Click on *Energy sources* then each of the renewable resources to fill in the chart

🡪Fill out the following chart. List the seven renewable energy resources described on the EIA Web site, and briefly describe ways in which these resources can produce energy (click on each link to get more information).

|  |  |
| --- | --- |
| RENEWABLE ENERGY RESOURCE | DESCRIPTION |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

A. What do *solar* cells do? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What do *solar* power plants do? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What did American colonists use *windmills* for? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Name 5 things that are *biomass* materials. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the most common *biomass* material? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. 84% of *wood* energy is used where? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What 3 states hold over one-half of the total U.S. *hydroelectric* capacity for electricity is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.
7. Most dams in the United States were not built to provide electricity, but for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. Renewable Energy Video

🡪Go to the National Geographic Video Web site:

<http://video.nationalgeographic.com/video/index.html>

 🡪Click on *Energy* under the Environmental Video menu.

🡪Put on your headphones and watch the video, *Alternative Energy* (the video will play automatically). 🡪Answer the following questions:

1. Why do you think renewable energy is gaining attention in the U.S.?

B. What do you think are the barriers that are preventing the U.S. from utilizing more renewable energy sources?

1. Energy in Your State

🡪Go to the U.S. Energy Information Administration State Energy Profiles Web site: <https://www.eia.gov/state/>

🡪Select your state from the list, and select and record two interesting quick facts about energy in your state.

State:

Quick Fact 1:

Quick Fact 2:

SUMMARY QUESTIONS:

1. What makes some energy sources renewable and others nonrenewable?
2. What are the advantages of using renewable energy sources?
3. Do you think the U.S. has an obligation to reduce its use of nonrenewable energy sources? Why?
4. What future energy trends do you think are likely for the U.S.?

Additional Resource: <https://www3.epa.gov/climatechange/kids/basics/index.html>