

# Energy

## Lesson 3: Critical Reading

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

*Read this passage from the text and answer the questions that follow.*

### Renewable Energy Resources

Renewable energy resources are natural resources that can be replaced in a relatively short period of time or are virtually limitless in supply. Besides their availability, renewable energy resources also have the advantage of producing little if any pollution and not contributing to global warming. The technology needed to gather energy from renewable resources may be expensive to install, but most of the resources themselves are free for the taking.

Renewable energy resources include sunlight, moving water, wind, biomass, and geothermal energy.

- The energy in sunlight is called solar energy. It can be used to heat homes and to produce electricity in solar cells. It may not be practical in areas that are often cloudy.
- Water moving downhill through a dam can turn a turbine and generate electricity. Dams generally flood land upstream and reduce water flow downstream. Either effect may harm ecosystems.
- Wind is moving air, so it has kinetic energy that can do work. Wind turbines change the kinetic energy of the wind to electrical energy. Only certain areas of the world get enough steady wind to provide a reliable source of electricity.
- Biomass energy is the stored chemical energy in plants. When plant material is burned, it produces thermal energy that can be used for heating, cooking, or generating electricity. Growing plants for biomass fuels reduces the land available for growing food crops. Burning biofuels produces carbon dioxide and air pollution.
- Heat below Earth's surface—called geothermal energy—can be used to heat homes or generate electricity. Installing a geothermal system by drilling through underground rocks can be very costly.

### Questions

1. What are renewable resources?
2. In general, what are the advantages of using renewable, rather than non renewable, energy resources?
3. Identify three renewable energy resources and give at least one potential drawback of each.

## Multiple Choice

*Write the letter of the correct choice.*

1. Non renewable energy resources include
  1. fossil fuels.
  2. running water.
  3. radioactive elements.
  4. two of the above
2. Natural gas is used for energy in
  1. motor vehicles.
  2. water heaters.
  3. furnaces.
  4. all of the above
3. All fossil fuels contain stored chemical energy that came originally from
  1. rocks below Earth's surface.
  2. marine organisms.
  3. giant tree ferns.
  4. the sun.
4. The fossil fuel that produces the most carbon dioxide when burned is
  1. oil.
  2. coal.
  3. biomass.
  4. natural gas.
5. A major drawback of nuclear energy is the production of
  1. air pollution.
  2. carbon dioxide.
  3. carbon monoxide.
  4. radioactive wastes.
6. Renewable energy resources include
  1. wind.
  2. biomass.
  3. moving water.
  4. all of the above
7. Solar cells convert solar energy to
  1. heat.
  2. steam.
  3. thermal energy.
  4. electrical energy.

## Match

*Match each definition with the correct term.*

### Definitions

\_\_\_\_\_ 1. saving resources by using them more efficiently

- \_\_\_\_\_ 2. resource that is limited in supply and cannot be replaced
- \_\_\_\_\_ 3. energy from plant materials
- \_\_\_\_\_ 4. mixture of hydrocarbons that formed from the remains of dead organisms
- \_\_\_\_\_ 5. heat from below Earth's surface that can be used for energy
- \_\_\_\_\_ 6. anything people use that comes from nature
- \_\_\_\_\_ 7. resource that is virtually limitless in supply or can be replaced quickly

### **Terms**

- a. conservation
- b. natural resource
- c. fossil fuel
- d. biomass energy
- e. renewable resource
- f. geothermal energy
- g. nonrenewable resource

### **Fill in the Blank**

*Fill in the blank with the appropriate term.*

1. Coal and natural gas are examples of energy resources called \_\_\_\_\_.
2. Uranium is used to produce energy in power plants by the process of nuclear \_\_\_\_\_.
3. Sunlight is an example of a(n) \_\_\_\_\_ energy resource.
4. The fossil fuel called \_\_\_\_\_ is used more than any other fossil fuel.
5. The country that uses the most petroleum is \_\_\_\_\_.
6. Gasoline and kerosene are made from the fossil fuel \_\_\_\_\_.
7. The fossil fuel that releases the least pollution is \_\_\_\_\_.

### **Critical Writing**

*Thoroughly answer the question below. Use appropriate academic vocabulary and clear and complete sentences.*

If you had to choose between using fossil fuels or nuclear energy to generate electricity, which would you choose? Make a choice and then argue to support it

