

**SECTION 5-1**

**REVIEW AND REINFORCE**

# The Nature of Energy

## ◆ Understanding Main Ideas

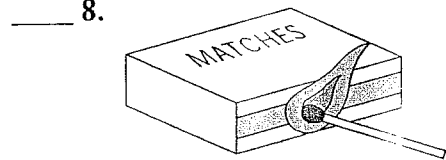
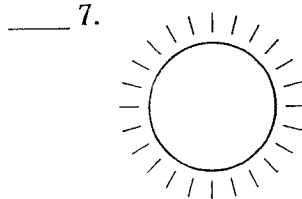
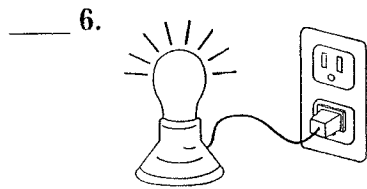
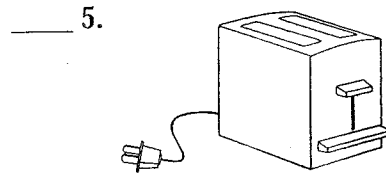
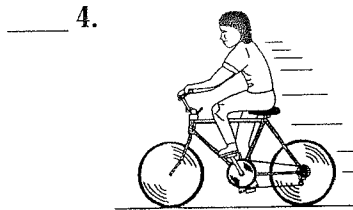
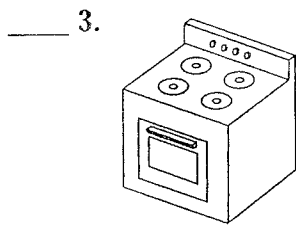
Answer the following questions on a separate sheet of paper.

1. How are work and energy related?
2. Compare and contrast kinetic energy and potential energy.

## ◆ Building Vocabulary

Match each illustration with the correct form(s) of energy by writing the letter or letters of the form(s) of energy on the line at the left.

- |                      |                           |
|----------------------|---------------------------|
| a. mechanical energy | b. electrical energy      |
| c. thermal energy    | d. nuclear energy         |
| e. chemical energy   | f. electromagnetic energy |



Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

- |  |   |
|--|---|
| _____ 9. energy                          | a. the energy that depends on height                                      |
| _____ 10. elastic potential energy       | b. the ability to do work or cause change                                 |
| _____ 11. gravitational potential energy | c. the energy associated with objects that can be stretched or compressed |

# Work and Energy

Name \_\_\_\_\_

1. Calculate the work done as Laura lifts her Rube Goldberg a height of .75 meters with a force of 80 Newtons.

FORMULA \_\_\_\_\_ SET-UP \_\_\_\_\_ ANSWER/UNITS \_\_\_\_\_

2. Tyler (600 Newtons) ran up a 150m flight of stairs in 248 seconds.

a. How much work did Tyler do?

FORMULA \_\_\_\_\_ SET-UP \_\_\_\_\_ ANSWER/UNIT \_\_\_\_\_

b. How much power did he provide?

FORMULA \_\_\_\_\_ SET-UP \_\_\_\_\_ ANSWER/UNIT \_\_\_\_\_

3. What is the difference between potential and kinetic energy?

a. What variable can increase an objects kinetic energy?

b. What variable can increase an objects potential energy?

4. Explain why a 60-watt light bulb is brighter than a 25-watt lightbulb in terms of power and energy.