

Chapter 6

Use with Text Pages 166–171

STUDY GUIDE

● Using Heat to Do Work

Match each term in Column II with its description in Column I. Write the letter of the correct term in the space provided.

Column I

Column II

- | | |
|---|-------------------------------|
| _____ 1. rapid burning | a. internal combustion engine |
| _____ 2. device that moves thermal energy from one location and transfers it to another location at a different temperature | b. external combustion engine |
| _____ 3. burns fuel on the outside | c. combustion |
| _____ 4. device that converts thermal energy into mechanical energy | d. heat engine |
| _____ 5. burns fuels inside chambers called cylinders | e. heat pump |
| _____ 6. two-way heat mover | f. heat mover |
| _____ 7. movement of a piston up or down | g. stroke |

The steps of the four-stroke cycle of a gasoline engine are described below. Use the terms *compression stroke*, *power stroke*, *exhaust stroke*, or *intake stroke* to correctly label each step. Write your labels in the blanks.

- | | |
|-------|---|
| _____ | 1. The piston moves downward and draws a fuel-air mixture into the cylinder through the intake valve. |
| _____ | 2. The intake valve closes. The piston moves up squeezing the fuel-air mixture into a smaller space. |
| _____ | 3. A spark produced by a spark plug ignites the fuel-air mixture. Hot gases expand, forcing the piston down. |
| _____ | 4. The piston moves up again, compressing the waste products from the burning of the fuel-air mixture. The waste products leave the cylinder through a valve. |

