

## Skills Worksheet

**Study Guide – Ch 17****MATCHING**

In the space provided, write the letter of the term or phrase that best matches the description.

- |   |  |
|---|--|
| _____ 1. fossil fuels                                   | a. Middle East                           |
| _____ 2. region with the most coal deposits             | b. fission and fusion                    |
| _____ 3. electric generator                             | c. oil, natural gas, and coal            |
| _____ 4. site of world's worst nuclear reactor accident | d. magnetic fields and rotating turbines |
| _____ 5. nuclear energy                                 | e. gasoline and plastics                 |
| _____ 6. used in a nuclear reaction                     | f. Asia                                  |
| _____ 7. made from petroleum                            | g. uranium                               |
| _____ 8. region with the most oil deposits              | h. Chernobyl                             |
| _____ 9. used in nuclear fusion                         | i. Europe                                |
| _____ 10. region with the most natural gas deposits     | j. deuterium and tritium                 |

**MULTIPLE CHOICE**

In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.

- \_\_\_\_\_ 11. Which of the following is *not* a main use of fuel?
- |                   |                                  |
|-------------------|----------------------------------|
| a. transportation | c. heating and cooling buildings |
| b. manufacturing  | d. cooking                       |
- \_\_\_\_\_ 12. The energy in fossil fuels is often converted into
- |                     |                  |
|---------------------|------------------|
| a. electricity.     | c. uranium.      |
| b. magnetic fields. | d. power plants. |
- \_\_\_\_\_ 13. Which country uses the least amount of energy per person?
- |              |                  |
|--------------|------------------|
| a. Argentina | c. United States |
| b. Japan     | d. Canada        |
- \_\_\_\_\_ 14. Much of the oil and natural gas in the United States is located in
- |   |
|---|
| a. Alaska, Minnesota, New York, and Texas.            |
| b. Alaska, California, Michigan, and Nevada.          |
| c. Texas, Colorado, New York, and the Gulf of Mexico. |
| d. Alaska, Texas, California, and the Gulf of Mexico. |

**Study Guide** *continued*

- \_\_\_\_\_ 15. Most of the world's fossil fuel reserves are made up of
- a. oil.
  - b. natural gas.
  - c. coal.
  - d. waste rock.
- \_\_\_\_\_ 16. Crude oil is another name for
- a. fossil fuel.
  - b. natural gas.
  - c. petroleum.
  - d. methane.
- \_\_\_\_\_ 17. Internal combustion engines release
- a. carbon dioxide into the atmosphere.
  - b. nuclear waste into the atmosphere.
  - c. iodized oil into the atmosphere.
  - d. methane into the atmosphere.
- \_\_\_\_\_ 18. Oil production is still increasing, but it
- a. will start decreasing in the next year.
  - b. is increasing much more dramatically than it did in the past.
  - c. will start decreasing in the next five years.
  - d. is increasing much more slowly than it did in the 1960s.
- \_\_\_\_\_ 19. A large oil reserve
- a. was discovered in Morocco in the year 2000.
  - b. has not been discovered in the past decade.
  - c. has only been discovered in Saudi Arabia.
  - d. will probably be discovered on the moon.
- \_\_\_\_\_ 20. Which of the following is *not* a consequence of using nuclear energy?
- a. production of electricity
  - b. reduction in the use of fossil fuels
  - c. a safer environment for humans
  - d. release of less radioactivity into the atmosphere than burning coal
- \_\_\_\_\_ 21. Nuclear fusion and nuclear fission are different because
- a. fusion releases no energy.
  - b. fission is a consequence of fusion.
  - c. nuclei unite during fusion and split during fission.
  - d. fission does not produce nuclear waste.
- \_\_\_\_\_ 22. Which of the following is *not* true?
- a. Uranium-bearing rocks are in unlimited supply.
  - b. Building and maintaining a safe reactor is very expensive.
  - c. It is difficult to find a safe place to store nuclear waste.
  - d. The fission process can get out of control.
- \_\_\_\_\_ 23. The most serious nuclear accident in the United States occurred at
- a. Chernobyl.
  - b. Yucca Mountain.
  - c. Diablo Canyon.
  - d. Three Mile Island.

# CHAPTER 17 Review

## Reviewing Key Terms

Use each of the following terms in a separate sentence.

1. *fossil fuel*
2. *petroleum*
3. *oil reserves*
4. *nuclear fission*
5. *nuclear fusion*

For each pair of terms, explain how the meanings of the terms differ.

6. *petroleum* and *oil reserve*
7. *turbine* and *electric generator*
8. *nuclear fission* and *nuclear fusion*
9. **Concept Map** Use the following terms to create a concept map: *oil well, petroleum refinery, gasoline, natural gas, plastics, and oil reserve*.

## Reviewing Main Ideas

10. Which of the following statements provides a reason for the widespread use of fossil fuels?
  - a. Fossil fuels are a renewable source of energy.
  - b. Fossil fuels are readily available and inexpensive.
  - c. Fossil fuels are not harmful to the environment.
  - d. all of the above
11. Which of the following pairs are design features that nuclear power plants and coal-fired power plants share?
  - a. fuel rods and containment buildings
  - b. turbines and generators
  - c. combustion chamber and reactor cores
  - d. none of the above
12. The main reason for the worldwide slowdown in the construction of nuclear power plants is that
  - a. we have run out of uranium fuel.
  - b. the electricity from nuclear power is generally more expensive to produce than electricity from other sources.
  - c. nuclear reactors are inherently unsafe.
  - d. nuclear reactors release large quantities of greenhouse gases.
13. Which is an example of the direct use of fossil fuels?
  - a. a nuclear reactor
  - b. an oil-fired furnace
  - c. a wind generator
  - d. a wood-burning stove
14. Which of the following statements describes the process by which modern nuclear power plants use nuclear energy?
  - a. Power plants use nuclear fusion to split uranium atoms and release nuclear energy.
  - b. Power plants use nuclear fusion to combine atomic nuclei and release nuclear energy.
  - c. Power plants use nuclear fission to split uranium atoms and release nuclear energy.
  - d. Power plants use nuclear fission to combine atomic nuclei and release nuclear energy.
15. If fossil fuels are still forming today, why are they considered nonrenewable resources?
  - a. Fossil fuels are broken down by natural processes faster than they form.
  - b. We are depleting fossil fuels much faster than they form.
  - c. The fossil fuels being formed today are deep under the ocean, where they cannot be reached.
  - d. The only fossil fuels being produced are methane hydrates, which we cannot use yet.
16. Which of the following is *not* a disadvantage of nuclear energy?
  - a. the difficulty of safe storage of nuclear waste
  - b. the high levels of air pollution produced
  - c. the high cost of construction and maintenance of a nuclear power plant
  - d. the possibility that a nuclear chain reaction can get out of control