

Skills Worksheet

**Concept Review**

16

**MATCHING**

Write the letter of the term or phrase on the right that best matches the description on the left in the space provided.

- |          |   |                    |
|----------|---|--------------------|
| <u>G</u> | 1. process of returning land to its original or better condition after mining                           | a. alloy           |
| <u>C</u> | 2. the wall of a coal seam  | b. surface mining  |
| <u>E</u> | 3. minerals that contain valuable substances  | c. longwall        |
| <u>A</u> | 4. two or more metals that are combined   | d. subsidence      |
| <u>H</u> | 5. open pit used to mine materials near the surface   | e. ore minerals    |
| <u>I</u> | 6. process by which crushed ore is melted at high temperatures to separate impurities from molten metal | f. aggregates      |
| <u>B</u> | 7. mining method used when ore deposits are located close to Earth's surface                            | g. reclamation     |
| <u>F</u> | 8. sand, gravel, and crushed rock   | h. quarry          |
| <u>J</u> | 9. minerals concentrated by wind and water movement into surface deposits                               | i. smelting        |
| <u>D</u> | 10. the sinking of regions of the ground with little or no horizontal movement                          | j. placer deposits |

**MULTIPLE CHOICE**

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

- A 11. The first step in surface coal mining is
- to remove and set aside the soil that covers the area to be mined.
  - to use heavy equipment to take core samples.
  - to test to see if quarrying would be more effective.
  - to make cuts in the coal for easier removal.
- D 12. A serious hazard of coal mining is
- a high-pressure water blast.
  - an aggregation.
  - excess overburden.
  - an underground mine fire.

**Concept Review *continued***

- C 13. Dredging streambeds may be an effective technique for **mining**
- a. silica.
  - b. coal.
  - c. gold.
  - d. sulfur.
- D 14. Before mining a site, a mining company must do all of the following *except*
- a. obtain permits from state agencies.
  - ~~B~~ b. comply with federal regulations.
  - c. obtain bonding.
  - d. cut into a section of the longwall.
- B 15. What is the arrangement of atoms in a mineral?
- a. porous, woven patterns
  - b. regular, repeating geometric patterns
  - c. irregular patterns
  - d. clumped groups of like elements
- D 16. Nonmetallic minerals prized mainly for their beauty, rarity, or durability are called
- a. aggregates.
  - b. overburden.
  - c. native elements.
  - d. gemstones.
- D 17. Which of the following is *not* affected when soil is removed from a surface mine?
- a. plant life
  - b. soil nutrients
  - c. animal habitat
  - d. deep coal seams
- A 18. Mining companies can identify areas of valuable mineral resources by
- a. mineral exploration.
  - b. smelting.
  - c. mineral excavation.
  - d. dredging.
- A 19. Solar evaporation is practical in order to obtain salt from sea water in climates where rainfall is exceeded by
- a. evaporation.
  - b. snowfall.
  - c. high-speed winds.
  - d. humidity.
- C 20. Which of the following is *not* a way that ore minerals may form?
- a. cooling of magma
  - b. circulation of hydrothermal solutions through rocks
  - c. flooding of empty streambeds and rivers
  - d. evaporation of water that contains salts
- A 21. Which of the following is one reason why undersea mining has been largely unsuccessful to date?
- a. Deposits at great water depths are difficult to work.
  - b. Ocean water is too salty.
  - c. There is too much aggregate on the ocean floor.
  - d. Magma exists under the ocean floor.

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**Concept Review**

17

**MATCHING**

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

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

- D 11. Which of the following is *not* a main use of fuel?
- |                   |                                  |
|-------------------|----------------------------------|
| a. transportation | c. heating and cooling buildings |
| b. manufacturing  | d. cooking                       |
- A 12. The energy in fossil fuels is often converted into
- |                     |                  |
|---------------------|------------------|
| a. electricity.     | c. uranium.      |
| b. magnetic fields. | d. power plants. |
- A 13. Which country uses the least amount of energy per person?
- |              |                  |
|--------------|------------------|
| a. Argentina | c. United States |
| b. Japan     | d. Canada        |
- D 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. |

**Concept Review *continued***

- C 15. Most of the world's fossil fuel reserves are made up of
- |                 |                |
|-----------------|----------------|
| a. oil.         | c. coal.       |
| b. natural gas. | d. waste rock. |

- C 16. Crude oil is another name for
- |                 |               |
|-----------------|---------------|
| a. fossil fuel. | c. petroleum. |
| b. natural gas. | d. methane.   |

- A 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.        |

- D 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.      |

- B 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.    |

- C 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 |

- C 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.              |

- A 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.                  |

- D 23. The most serious nuclear accident in the United States occurred at
- |                    |                       |
|--------------------|-----------------------|
| a. Chernobyl.      | c. Diablo Canyon.     |
| b. Yucca Mountain. | d. Three Mile Island. |

Skills Worksheet

**Concept Review**

18

**MATCHING**

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

- |          |   |   |
|----------|---|---|
| <u>D</u> | 1. plant material, manure, and wood                                       | a. passive solar heating                  |
| <u>F</u> | 2. uses collectors with moving parts to capture the sun's energy          | b. ocean thermal energy conversion (OTEC) |
| <u>H</u> | 3. saves energy   | c. alternative energy                     |
| <u>C</u> | 4. energy sources that are still in development                           | d. biomass fuel                           |
| <u>I</u> | 5. energy produced from moving water                                      | e. fuel cell                              |
| <u>A</u> | 6. uses the sun's energy to heat something directly, without moving parts | f. active solar heating                   |
| <u>J</u> | 7. energy from heat in Earth's interior                                   | g. energy efficiency                      |
| <u>B</u> | 8. uses low pressure and warm ocean water to boil colder ocean water      | h. energy conservation                    |
| <u>G</u> | 9. percentage of energy that does useful work in a system                 | i. hydroelectric energy                   |
| <u>E</u> | 10. uses hydrogen as an energy source                                     | j. geothermal energy                      |

**MULTIPLE CHOICE**

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

- C ~~A~~ 11. Wind, moving water, sunlight, and heat from Earth's interior are sources of
- |                        |                          |
|------------------------|--------------------------|
| a. alternative energy. | c. renewable energy.     |
| b. geothermal energy.  | d. ocean thermal energy. |
- B 12. Which of the following uses solar collectors to heat water?
- |                          |                       |
|--------------------------|-----------------------|
| a. passive solar heating | c. photovoltaic cells |
| b. active solar heating  | d. all of the above   |

**Concept Review** *continued*

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- D 13. Which of the following is the fastest-growing source of energy in the world?  
**a.** passive solar heating                      **c.** fuel cells  
**b.** photovoltaic cells                            **d.** wind power
- D 14. Which of the following is a major source of biomass fuel in developing countries?  
**a.** wood    **c.** corn  
**b.** dung    **d.** both (a) and (b)
- A 15. A geothermal power plant gets energy by  
**a.** pumping heated water or steam from rock formations.  
**b.** circulating fluid underground.  
**c.** holding water behind a dam.  
**d.** using methane from decomposition.
- A 16. Tidal power, hydrogen fuel cells, and ocean thermal energy conversion are sources of  
**a.** alternative energy.                            **c.** nonrenewable energy.  
**b.** geothermal energy.                           **d.** hydroelectric energy.
- C 17. Which of the following descriptions of hybrid cars is correct?  
**a.** Hybrid cars do not use gasoline engines.  
**b.** Hybrid cars have not been made yet.  
**c.** Hybrid cars are energy-efficient.  
**d.** Hybrid cars rely on biomass fuel.
- B 18. Which of the following statements about hydrogen as a fuel source is correct?  
**a.** The amount of hydrogen on Earth is too small to meet our fuel needs.  
**b.** Hydrogen can be burned as a fuel or used to produce electricity chemically.  
**c.** When hydrogen is burned, it releases pollutants.  
**d.** Generating hydrogen by burning fossil fuels is inexpensive.
- A 19. Sunlight falls on a semiconductor, causing it to release electrons, in a  
**a.** photovoltaic cell.                              **c.** battery.  
**b.** fuel cell.                                         **d.** solar collector.
- D 20. People can conserve energy in their daily lives by driving a vehicle  
**a.** mostly for short distances.  
**b.** instead of taking a bus or train.  
**c.** with a large gas tank.  
**d.** that is fuel-efficient.