

## Tides and Ocean Resources

## Standard 4 Objective 3 Indicators d and e

## Chapter 21: Section 3: Directed Reading Pages 531-534

## Section: Tides (page 531)

1. The periodic rise and fall of the water level in the oceans is called \_\_\_\_\_.
2. The period when the water level is highest is called \_\_\_\_\_.
3. The period when the water level is lowest is called \_\_\_\_\_.

## THE CAUSES OF TIDES (page 531)

4. According to Newton's law of gravitation, what causes tides?
5. When tidal bulge occurs, what is caused in the area of the bulge?
6. What causes low tides?

## BEHAVIOR OF TIDES (page 532)

- \_\_\_\_\_ 7. How long does it take for all areas of the ocean to pass under the moon?  
a. 24 h      b. 29 h      c. 24 h 50 min      d. 29 days
- \_\_\_\_\_ 8. Most places in the ocean have two high tides and two low tides daily because  
a. there is a tidal range.      b. there are two tidal bulges.  
c. the moon rises about 50 min later each day.      d. the tidal range varies from place to place.
- \_\_\_\_\_ 9. What is the difference in levels of ocean water at high tide and low tide called?  
a. low tide      b. tidal bulge      c. tidal range      d. high tide
- \_\_\_\_\_ 10. A tide that results when the gravitational pull of the sun and moon combine to create higher high tides and lower low tides is called a  
a. neap tide.      b. tidal range.      c. spring tide.      d. new moon.
- \_\_\_\_\_ 11. A tide that occurs when the gravity of the sun and the moon work against each other and create a small daily tidal range is called a  
a. tidal range.      b. spring tide.      c. neap tide.      d. full moon.

## TIDAL VARIATIONS (page 533)

12. The slow, rocking motion of ocean water caused by tidal bulges moving around the ocean basins is called \_\_\_\_\_.
13. Explain why the Baltic and Mediterranean Seas have a very small tidal range.

## TIDAL CURRENTS (page 534)

- \_\_\_\_\_ 14. ebb tide      a. flow of tidal current toward the ocean
- \_\_\_\_\_ 15. tidal bore      b. flow of tidal current toward the coast
- \_\_\_\_\_ 16. tidal current      c. surge of tidal water upstream in a river that enters the ocean through a long bay
- \_\_\_\_\_ 17. flood tide      d. the movement of water toward and away from the coast
18. The tidal bores in the River Severn in England reach as far as \_\_\_\_\_ inland.

Section: Ocean Resources (page 505)

- |                                       |   |
|---------------------------------------|---|
| _____ 1. freezing                     | a. a process of removing salt from ocean water  |
| _____ 2. distillation                 | b. a process using special membranes that allow water under high pressure to pass through, while blocking dissolved salts                   |
| _____ 3. desalination                 | c. a process in which water is frozen, and ice crystals are removed and then melted to obtain fresh water                                   |
| _____ 4. reverse osmosis desalination | d. a process in which liquid water is heated, then evaporates leaving dissolved salts behind, and condenses, resulting in pure, fresh water |

**MINERAL AND ENERGY RESOURCES (506)**

- \_\_\_\_\_ 5. The most valuable resource found in the ocean is  
a. salt.    b. minerals.    c. petroleum.    d. gold.
- \_\_\_\_\_ 6. Offshore oil and natural gas deposits exist  
a. along the shorelines of the northern hemisphere.    b. under sandy-bottom beaches.  
c. along continental margins.    d. under the deepest ocean floors.
- \_\_\_\_\_ 7. About how much of the world's oil supply is currently mined from offshore wells?  
a. one-third    b. one-fourth    c. one-half    d. all
- \_\_\_\_\_ 8. Potato-shaped lumps of minerals, called *nodules*, are found  
a. on the abyssal floor of the ocean.    b. washed up along the shorelines in remote areas.  
c. in underwater oil wells.    d. in ocean waters heavy with organic materials.
- \_\_\_\_\_ 9. Recovery of nodules is difficult and expensive because  
a. they are so small.    b. they contain manganese, iron, copper, nickel, cobalt, and phosphates.  
c. they are located in very deep water.    d. the minerals they contain cost too much to recover.
- \_\_\_\_\_ 10. The ocean is an important source of  
a. copper and silver.    b. magnesium and bromine.  
c. trace minerals and iron.    d. salt and diamonds

**FOOD FROM THE OCEAN ( 507)**

11. The raising of aquatic plants and animals for human use or consumption is called \_\_\_\_\_.

**OCEAN-WATER POLLUTION (508)**

- \_\_\_\_\_ 12. What factors have reduced the ocean's ability to absorb wastes and renew itself?  
a. growth of world population and use of more-toxic substances  
b. shifting ocean floors and toxic ocean plant life  
c. underground volcanoes and offshore drilling  
d. oil spills and global warming
- \_\_\_\_\_ 13. Which of the following items is NOT a dangerous pollutant in the ocean?  
a. mercury    b. phosphates    c. DDT from insecticides    d. lead from gasoline
- \_\_\_\_\_ 14. What are two ways scientists and governments have worked to reduce pollution?  
a. DDT is banned worldwide, and use of leaded gasoline has been eliminated.  
b. Use of DDT and leaded gasoline have both been reduced in the United States.  
c. Insecticide use has been banned in the United States, and use of leaded gasoline has been reduced.  
d. Use of DDT has been banned in the United States, and use of leaded gasoline has been reduced.