The Marine Environment

SECTION 16.1  Shoreline Features

In your textbook, read about erosional landforms, beaches, estuaries, longshore currents, and rip currents.
For each statement below, write true or false.

1. Waves move more slowly in deep water than in shallow water.
2. Wave crests bend as they move into shallow water in a process called wave refraction.
3. The force of breakers, along with rock fragments suspended in water, can erode solid rock.
4. Rocky headlands, which are points of land reaching into the ocean, are eroded by waves.
5. Most of a breaker’s energy is concentrated along beaches.
6. A wave-cut platform ends against a steep wave-cut cliff.
7. Sea caves are formed by erosion from breakers.
8. Wide, sandy beaches are the result of loose sediments carried away from the shore by waves.
9. Beaches made of pebbles are usually found on rocky coasts.
10. The water in an estuary is always salty.
11. Estuaries are important because they are nurseries for the young of many species.
12. The water current that flows parallel to the shore is called a longshore current.
13. Fine-grained materials, such as clay, fall to the bottom of moving water and are pushed along the bottom by the current.
14. Rip currents move large amounts of sediment along the shore.
15. Rip currents flow through gaps of longshore bars and up onto beaches.
SECTION 16.1 Shoreline Features, continued

In your textbook, read about depositional features of seashores. Use each of the terms below just once to complete the passage.

barrier islands  deposit  sand dunes  seashores
sediment  spit  storm waves  wave erosion

Most (16) __________________ are constantly changing due to (17) __________________ longshore transport, and (18) __________________ deposition. Large storm waves pick up sediments and (19) __________________ them wherever waves and currents move more slowly. Sometimes the transported sediments build a narrow bank of sand called a (20) __________________ that projects into the water from a bend in the coastline. Longshore currents may also deposit long ridges of sediment to form a chain of (21) __________________. Tides and (22) __________________ can help currents build features that rise well above sea level. Also, winds blow dry, exposed sediment into (23) __________________ along shorelines.

Answer the following questions.

24. How are a spit and a tombolo alike?

_____________________________________________________________________________
_____________________________________________________________________________

25. Do you think the shore of a barrier island is a good or bad place to build a house? Why?

_____________________________________________________________________________
_____________________________________________________________________________

_____________________________________________________________________________
SECTION 16.1 Shoreline Features, continued

In your textbook, read about protective structures.
Use the terms below to label each drawing.

breakwater          groin            seawall

26.  

27.  

28.  

29. What happens to the beach in front of a seawall?

30. What happens to a beach located down the coast from a groin?

31. Why does the anchorage behind a breakwater have to be dredged?

In your textbook, read about changes in sea level.
Underline the term in parenthesis that best completes the statement.

32. About 10 000 years ago, Earth’s seas were (higher, lower) than they are today.

33. The seas are still rising. Many researchers believe the cause is (global warming, lower temperatures on Earth’s surface).

34. Coastal valleys scooped out by glaciers and later flooded produce (barrier islands, fjords).

35. Local sea levels can be affected by (tectonic movement, coastal cities).

36. A rising coastline produces a relative (rise, drop) in sea level.