Marine Biology Function Biodiversity Ecology 5th edition Levinton Test Bank

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Test Bank for Marine Biology: Function, Biodiversity, Ecology 5E
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Chapter 2

Submarine canyons are found in

a. Mid-oceanic ridges
b. The continental slope
c. Estuaries
d. The abyssal plain

Which of the following slopes corresponds most closely to that of the continental slope?
a. 10 degrees
b. **3 degrees**
c. 0.1 degrees
d. 20 degrees

Which of the following is the deepest?

a. abyssal
b. **hadal**
c. continental slope
d. continental rise

Marginal seas tend to have properties that differ from the adjacent open ocean because

a. Local evaporation may be high relative to precipitation
b. Marginal seas usually have restricted circulation with the adjacent open ocean
c. Local river input might reduce the salinity of the marginal sea
d. All of the above

The abyssal plain

a. Drains large river systems such as the Amazon River
b. Is an average of about 4,000 m deep
c. Actually has a slope of 3 degrees seaward
d. Never connects with an oceanic trench

As one proceeds away from a mid-oceanic ridge

a. One finds that first the ridge is magnetically neutral, but then there is a polar magnetic field
b. The oceanic crust becomes younger and younger
c. The oceanic crust becomes older and older

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d. The ridge has a reversed magnetic field, which reflects its formation many thousands of years ago

Parts of the oceanic crust where new crust originates are known as

a. Subduction zones
b. Mid-oceanic ridges
c. Transform faults
d. Plates

Plate boundaries include

a. trenches
b. mid-oceanic ridges
c. transform faults
d. all of the above

Which of the following is a reasonable rate of seafloor spreading

a. one meter per year
b. one cm per year
c. one cm per million years
d. ten cm per million years

A study of oceanic geology shows that there are few oceanic crustal rocks found that are older than 80 million years. Why?

a. Oceanic crust was not formed until the beginning of the Precambrian, 80 my ago.
b. Current radiometric dating techniques cannot date rocks older than 50 million years.
c. Subduction remelts oceanic rock and most has been destroyed of that age
d. Oceanic crust is only found at the ridges, which are mostly unsampled.

Which is good evidence for continental drift?

a. Reconstructions of the orientation of ancient landmasses using magnetic minerals
b. The fit of continents much like a jigsaw puzzle
c. Matches of specific geological elements from different continents, such as faults
d. All of the above

Water is a good solvent because

a. Of the charge asymmetry of the water molecule
b. It is a good polar solvent
c. Of its high transparency
d. All of the above

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Seasonal temperature changes are the greatest in

a. Polar waters
b. The equatorial region
c. Midlatitudes
d. The deep sea

Many elements in seawater are found in constant ratios throughout the ocean because

a. The input of dissolved substances from rivers is broadly constant throughout the ocean
b. Dissolved material in the ocean has been there for millions of years, with no input or removal
c. They remain in the ocean longer than the mixing time
d. This is not true; no elements are generally found in constant ratios

Trace elements in sea water include

a. Chlorine and potassium
b. Sodium and aluminum
c. Iron and strontium
d. Sodium and chlorine

Salinity is often estimated by chlorinity because

a. Chlorine is the only major element of sea water
b. Chlorine is in constant ratio to sodium and other major elements
c. Chlorine can be separated from the rest of sea water simply by evaporation
d. Salinity is not estimated by chlorinity but by sodium concentration

Which of the following is a typical range of open-ocean salinity in practical salinity units?

a. 5–10
b. 32–38
c. 40–50
d. 15–18

Which of the following does not decrease salinity?

a. Precipitation
b. Sea ice formation
c. River water flow
d. Melting of sea ice

Practical salinity units are based upon

a. The conductivity of sea water

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b. The mass of salts found after evaporating a sea water sample
c. The carbon content of sea water
d. The chlorine plus calcium concentration of sea water

Salt has the following effect on sea water

a. Reduces the bulk density
b. Decreases its light transmission
c. Lowers its freezing point
d. Causes it to rise to the surface

Ultraviolet light is important because

a. It is harmful to marine life, owing to the damage it does to DNA
b. It penetrates much deeper than other wave lengths of light and is important in photosynthesis
c. It causes beneficial warming of living tissues
d. It stimulates protein synthesis

The Coriolis effect causes a deflection to the right in

a. The Southern Hemisphere
b. The Equator
c. The Northern Hemisphere
d. The Pole

The Coriolis effect does not operate when

a. Traveling east in the Northern Hemisphere
b. Traveling east at latitude 45 degrees north
c. Traveling east at the Equator
d. All of the above

The Coriolis effect increases

a. With increasing latitude
b. With increasing water depth
c. With decreasing latitude
d. Actually its effect is the same all over the Earth's surface

Oxygen is added to sea water in

a. respiration
b. photosynthesis
c. rapid swimming by fish
d. increasing the temperature

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Sea water is oxygenated on the deep-sea bottom because

a. Bottom sea water originates in shallow water in the tropics, where oxygen is abundant
b. Wind mixes oxygenated water from the surface to the deep sea
c. A small amount of photosynthesis occurs on the deep-sea bed
d. Sea water in the deep sea originates at the surface in high latitudes

Lows in dissolved oxygen are usually found

a. At the bottom of trenches
b. In mid-water depths in the eastern parts of the Pacific Ocean
c. In estuaries in summer
d. All of the above

Western ocean boundary currents such as the Gulf Stream owe their origin partially to

a. The eastward rotation of the Earth
b. A local reversal of the Coriolis effect
c. Thermohaline convection effects
d. All of the above

Upwelling on the eastern sides of oceans is controlled by

a. The Coriolis effect
b. Local winds
c. Global-scale effects on climate
d. All of the above

Gyres

a. revolve clockwise near the Antarctic peninsula
b. revolve clockwise in the North Pacific
c. revolve clockwise around the Equator
d. revolve counterclockwise in the North Atlantic

Pycnoclines are

a. Vertical gradients in temperature only
b. Vertical gradients in sea water density
c. Vertical gradients in oxygen concentration
d. Small-scale changes in current structure

The motion of wind-driven waves affects the bottom

a. At all depths

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b. Only in water depths less than 20 m
c. At depths less than half the wave length
d. At depths less than two times the wave length

Tidal forces on the ocean are affected the most by

a. The Sun in winter
b. The Sun during summer solstice
c. The Moon.
d. The Moon, but only at new moon

During spring tides

a. The Sun, Moon, and Earth are in line, but the Earth can be between, or on either side of, the Sun and Moon
b. The Earth must be in line with the Sun and Moon, but the Earth must be on one side of the Sun and Moon combined
c. The Spring Solstice occurs
d. The tidal range is the least

Which of the following is true about tides?

a. There are always two high and low tides each day
b. Tidal heights are always equal
c. Tidal currents are strongest during spring tides
d. Tidal currents are strongest during neap tides

Fjords

a. Have an open connection with the ocean and are usually well oxygenated
b. Always have the same salinity as the adjacent oceanic area
c. Are never affected by tides
d. Are likely to have anoxic bottom waters

Estuaries often do not have a discrete layer of low-salinity water on top of high-salinity water because of

a. Wind mixing
b. Tidal motion
c. Basin shape
d. All of the above

The two factors that most affect sea water density are

a. Temperature and salinity
b. Temperature and oxygen

c. Oxygen and salinity
d. Nitrogen and temperature

An oxygen minimum layer develops

a. In a fjord at low tide
b. At a depth in the water column in the open ocean in the western Pacific
c. Within the sediment, just above a burrowed zone
d. All of the above

Wave motion affects the bottom

a. When the water depth is 10 m or less
b. When a wave arrives on shore
c. When the water depth is half the wave length or less
d. When the water depth is half the wave length or more

The North Atlantic Deep Water lies above the Antarctic Bottom Water because

a. Pleistocene glaciers are the source of the Antarctic Bottom Water
b. The North Atlantic Deep Water is formed later in the season, after the Antarctic Bottom Water
c. The North Atlantic Deep Water is of lower density than the Antarctic Bottom Water
d. The Antarctic Bottom Water is a permanent feature on the seafloor and never moves

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