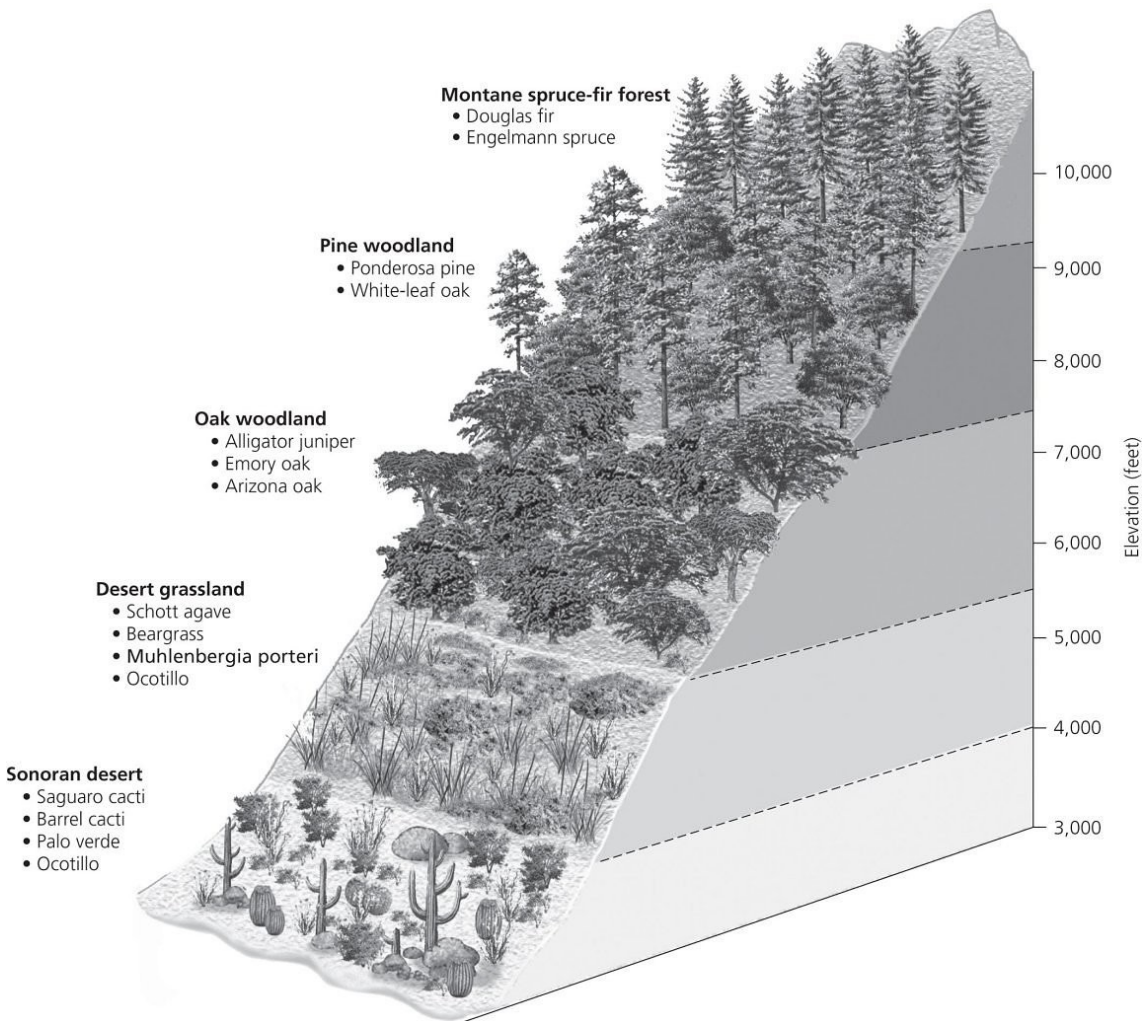


Chapter 6 Test: Species Interactions and Community Ecology

Graph and Figure Interpretation Questions



Use the accompanying figure to answer the following questions.

- 1) What does the diagram illustrate?
 - A) Biomes at the highest elevations roughly parallel biomes at the equator.
 - B) Biomes at high elevations roughly parallel biomes at high latitudes.
 - C) Rules regarding climate and biomes do not apply to mountainous regions.
 - D) Increasing altitudes demonstrate the stages of succession.
 - E) Mountain ranges demonstrate all of Earth's biomes.

2) _____ is/are greater at higher elevations than lower elevations.

- A) Ultraviolet radiation
- B) Oxygen levels
- C) Evaporation rates
- D) Air pressure
- E) Temperature

3) Which of the following is most likely to be found in the biome at the bottom (left) of this figure?

- A) polar bears
- B) frogs
- C) giraffes
- D) bison
- E) rattlesnakes

4) Compared to a region of equal area all at the same altitude, the area shown in the diagram _____.

- A) has much lower biodiversity
- B) displays much less climatic variation
- C) has much higher biodiversity and niche structure
- D) has mostly generalist endemic species
- E) supports more invasive exotic species

Match the following biomes to the descriptions below (questions 1-6)

- A) temperate deciduous forest
- B) tropical dry forest
- C) temperate grassland
- D) chaparral
- E) desert
- F) temperate rainforest

1) Describes biome in the eastern United States, north central Europe, and eastern China; characterized by stable precipitation and seasonal temperature variation

2) Describes the region between the Mississippi River and the Rocky Mountains, characterized by limited precipitation, thick organic soils, and extreme temperature variation in winter and summer

3) Describes the Pacific Northwest of the United States and Nagasaki, Japan; characterized by heavy rainfall and moderate temperature variation between winter and summer

4) Describes the terrestrial biome bordering the Mediterranean Sea; characterized by wet winters and warm dry summers

5) Describes an equatorial zone with moderate precipitation that fluctuates seasonally; characterized by warm temperatures year round

6) Describes Cairo, Egypt, and northwest Mexico; characterized by sparse rainfall and much variation in temperature

Multiple-Choice Questions

1) Individuals of a single species fighting over access to a limiting resource would be an example of _____.

- A) resource partitioning
- B) competitive exclusion
- C) symbiosis
- D) interspecific competition
- E) intraspecific competition

2) By definition, parasites _____ their host.

- A) kill
- B) are much smaller than
- C) get nourishment from and harm
- D) live on the external surface of
- E) never kill

3) Which of the following is a biotic factor?

- A) bacteria
- B) temperature
- C) rainfall
- D) sunlight
- E) carbon and nitrogen levels

4) _____ capture solar energy and use photosynthesis to produce sugars.

- A) Producers
- B) Primary consumers
- C) Secondary consumers
- D) Detritivores
- E) Heterotrophs

5) Grazing animals such as deer are _____.

- A) producers
- B) primary consumers
- C) secondary consumers
- D) detritivores
- E) decomposers

6) Zooplankton-eating fish are _____.

- A) producers
- B) primary consumers
- C) secondary consumers
- D) detritivores
- E) herbivores

7) Which of the following is true about top predators?

- A) They are often keystone species.
- B) They are likely to be herbivores.
- C) They are likely to be producers.
- D) They include bacteria and fungi.
- E) Their removal increases biodiversity.

8) Secondary succession _____.

- A) requires primary succession to precede it
- B) occurs after a volcano spreads lava across a landscape
- C) occurs after a fire or flood
- D) typically begins with lichen or moss colonizing rock
- E) is predictable because it always ends in the formation of a climax community

9) Temperature remains relatively stable through the seasons in what biome?

- A) chaparral
- B) tropical rainforest
- C) temperate deciduous forest
- D) temperate grassland
- E) boreal forest

10) Which terrestrial biome has the most biodiversity?

- A) temperate deciduous forest
- B) prairie
- C) tropical rainforest
- D) temperate rainforest
- E) boreal forest

11) Desert and tundra both _____.

- A) have lithosols
- B) have wide temperature variations throughout the year
- C) lack insects
- D) have relatively low precipitation
- E) lack shrubs

12) Taiga and tundra both _____.

- A) lack trees
- B) have comparatively low temperatures throughout the year
- C) lack many birds
- D) have many burrowing rodents
- E) are found in the southeastern United States

13) The statement, "hiking up a mountain in the southwestern United States is like walking from Mexico to Canada," refers to the fact that _____ change(s) with altitude and latitude.

- A) vegetation
- B) oxygen levels
- C) carbon dioxide levels
- D) levels of industrial air pollutants
- E) human population density

14) In the rain shadow effect, _____.

- A) the dry region is on the leeward side of a mountain
- B) the dry region is on the windward side of a mountain
- C) rainfall fluctuates, arriving in equal amounts on both sides
- D) rainfall varies, but always falls in shadow areas
- E) the wet region is determined by the location of jet stream

15) A climax community _____.

- A) is typical of the first stages of secondary succession
- B) remains in place until a disturbance restarts succession
- C) describes terrestrial biomes
- D) describes aquatic biomes
- E) has the lowest biodiversity of all stages of succession

16) Which biome would be found primarily in the temperate zone?

- A) desert
- B) boreal forest
- C) savanna
- D) deciduous forest
- E) tundra

17) Microbes in our digestive tract that help us digest food demonstrate a(n) _____ association.

- A) allelopathic
- B) homeopathic
- C) parasitic
- D) symbiotic
- E) benthic

18) Which of the following are pioneer species?

- A) lichens
- B) wolves and mountain lions
- C) beavers
- D) aspen trees
- E) zebra mussels

19) Kelp _____.

- A) is eaten by sea otters
- B) is eaten by orcas
- C) suffers intense herbivory from zebra mussels
- D) suffers intense herbivory from sea urchins
- E) is pollinated by sea urchins

20) Flying squirrels competing with each other for truffles is an example of _____.

- A) intraspecific competition
- B) interspecific competition
- C) habitat competition
- D) exploitation competition
- E) interference competition

21) Global climate change may produce major shifts in biomes because _____.

- A) biodiversity and day length will change
- B) mean temperature and precipitation will change
- C) many species may become extinct
- D) food web dynamics will change

E) soil chemistry, pH of precipitation, and the frequency of invasive species will change

22) Detritivores include _____.

A) oak and poplar trees

B) algae and photosynthetic bacteria

C) millipedes, soil insects, and many ants

D) wolves and lions

E) species that can break down cellulose, bone, and other durable biopolymers

23) The energy content and biomass of _____ is lowest in any food web.

A) top carnivores

B) producers

C) small carnivores such as spiders and lizards

D) detritivores and decomposers

E) primary consumers

Scenario-Based Questions

Read the following scenario and answer the questions below

Human activities, including fossil fuel combustion, farming, and deforestation, are known to increase the levels of carbon dioxide, methane, and nitrous oxides in our atmosphere. Measurable warming of Earth due to these greenhouse gases can alter ecosystem dynamics. In addition to the direct climatic effects on organisms within biomes, warming can lower levels of sea ice and increase precipitation in Arctic areas. Global warming also can melt permafrost in the tundra and increase sea surface temperatures, which could increase the intensity of hurricanes in vulnerable areas. Within communities, climatic change can shift interdependent species "out of sync," potentially causing indirect loss of species. For example, if pollinators and the plants they pollinate become out of synch, the pollinators may not be able to use a different food source, and the plants may not be able to reproduce.

24) If the climate warms significantly, tundra permafrost may melt, which may lead to _____ the community.

A) pioneer species colonizing

B) succession occurring in

C) coevolution occurring in

D) climax occurring in

E) facilitation occurring in

25) Intense hurricanes resulting from global warming can directly lead to _____ within communities.

- A) primary succession
- B) secondary succession
- C) coevolution
- D) climax
- E) facilitation

26) Global warming has been hypothesized to cause many plants to flower earlier. If bees search for food earlier in response to this, this would represent _____ within the community.

- A) primary succession
- B) secondary succession
- C) coevolution
- D) climax
- E) extirpation

27) The relationship between flowering plants and bees is best described as _____.

- A) predation
- B) parasitism
- C) herbivory
- D) mutualism
- E) competition