

CHAPTER 52: Ecology

1. Define each of the following terms:

a. ecology – _____

b. biotic – _____

c. abiotic – _____

d. population – _____

e. community – _____

f. ecosystem – _____

g. biosphere – _____

2. What is dispersal?

3. What are the important factors that influence terrestrial distribution?

4. Define the term biome.

Name: _____

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5. Fill in the following chart:

Biome	Abiotic Characteristics	Biotic Characteristics
Tundra		
Boreal Forest (Tiaga)		
Temperate Deciduous Forest		
Temperate Grassland		
Desert (Hot/Cold)		
Chaparral		
Thorn Forest/Savanna		
Tropical Evergreen Forest		

Name: _____

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6. What is biogeography?

7. What is the significance of Wallace's line?

8. How has the understanding of continental drift influenced the field of biogeography?

9. What is a vicariant event? How is related to biogeography?

10. What does endemic mean?

END OF CHAPTER 52 MULTIPLE CHOICE

1. Ecosystems are composed of
 - A) all the organisms that live in an area.
 - B) the organisms that most strongly influence the environment of other organisms in an area.
 - C) all the organisms that live in an area plus the physical environment.
 - D) the geology, soils, weather, and climate of an area.
 - E) Different ecosystems have different components.

2. A biome is
 - A) a large ecological unit based on the growth forms of the dominant plants.
 - B) a large ecological unit based on the life forms of the dominant animals.
 - C) a large ecological unit based on the regional climate.
 - D) a large ecological unit based on both topography and climate.
 - E) a large ecological unit based on biogeochemical cycles.

3. The rate at which solar energy arrives per unit of Earth's surface depends primarily on
 - A) the angle of the sun's rays.
 - B) the moisture content of the air.
 - C) the amount of cloud cover.
 - D) the strength of the winds.
 - E) day length.

4. When a region lies under the intertropical convergence zone,
 - A) it experiences unusually strong winds.
 - B) it is in the middle of the dry season
 - C) it is in the middle of the wet season.
 - D) the winds are not unusually strong but they come from multiple directions.
 - E) day lengths change rapidly.

5. Biogeography as a science began when
 - A) nineteenth-century naturalists first noted intercontinental differences in the distributions of organisms.
 - B) Europeans went to the Middle East during the Crusades.
 - C) phylogenetic methods were developed.
 - D) the fact of continental drift was accepted.
 - E) Charles Darwin proposed the theory of natural selection.

6. Vicariant events
 - A) are infrequent in nature.
 - B) were common in the past but are rare today.
 - C) separate species ranges in the absence of dispersal.
 - D) were rare in the past but are common today.
 - E) caused most of today's discontinuous distributions.

7. Marine biogeographic regions exist even though the oceans are all connected because
 - A) the rate of photosynthesis is low in the oceans.
 - B) ocean currents keeps organisms close to where they were born.
 - C) most taxa of marine organisms evolved before the oceans were separated by continental drift.
 - D) water temperatures and salinities often change abruptly where ocean currents meet.
 - E) oceanic circulation is too slow to carry marine organisms from one ocean to another.

8. A parsimonious interpretation of a distribution pattern is one that
 - A) requires the smallest number of undocumented vicariant events.
 - B) requires the smallest number of undocumented dispersal events.
 - C) requires the smallest total number of undocumented vicariant plus dispersal events.
 - D) accords with the phylogeny of a lineage.
 - E) accounts for centers of endemism.

9. The only major biogeographic region that today is completely isolated by water from other biogeographic regions is
 - A) Greenland.
 - B) Africa.
 - C) South America.
 - D) Australasia.
 - E) North America.

10. According to the theory of island biogeography, equilibrium species richness is reached when
 - A) immigration rates of new species and extinction rates of species are equal.
 - B) immigration rates of all species and extinction rates of species are equal.
 - C) the rate of vicariant events equals the rate of dispersal.
 - D) the rate of island formation equals the rate of island loss.
 - E) No equilibrium number of species exists according to the theory.