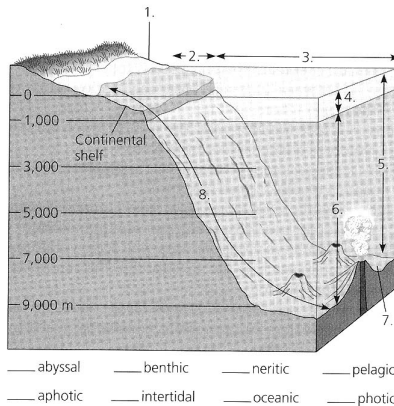


1. List the five areas of ecological study and describe the focus of inquiry at each level
2. Mountains affect local climate. Describe their influence in the following three area:
 - a. solar radiation
 - b. temperature
 - c. rainfall
3. List and give examples of the four factors that may limit the geographic distribution of a species.
4. Indicate with a + or - whether the following are relatively high or low in oxygen level, nutrient content, and productivity.

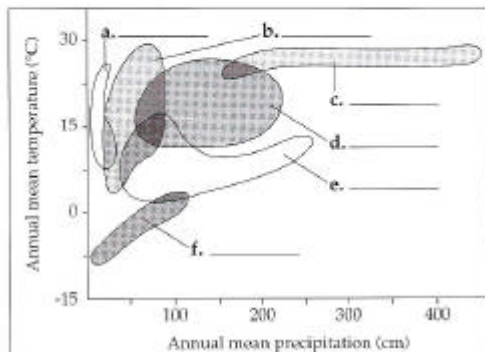
Biome	Oxygen Level	Nutrient Content	Productivity
Oligotrophic lake			
Eutrophic lake			
Headwater of stream			
Turbid river			
Estuary			

5. Different marine environments can be classified on the basis of light penetration, distance from shore, and open water or bottom. Match the following zones to their corresponding numbers on the diagram below:

Abyssal, benthic, neritic, pelagic, aphotic, intertidal, oceanic, photic



6. Temperature and precipitation are two of the key factors that influence the vegetation found in a biome. On the climograph shown below, label the North American biomes (arctic and alpine tundra, coniferous forest, desert, temperate grassland, temperate broadleaf forest, and tropical forest) represented by each plotted area of temperature and precipitation.



Multiple Choice Questions

1. Important abiotic factors in ecosystems include which of the following?
a. temperature b. water c. wind d. A and C only e. A, B, and C
2. Ecology as a discipline directly deals with all of the following levels of biological organization *except*
a. population. b. cellular. c. organismal. d. ecosystem. e. community.
3. Introduced species
a. often fail to colonize the new area. b. may become common enough to become pests. c. can disrupt the balance of the natural species with which they become associated. d. B and C only e. A, B, and C are all correct.
4. Westerly winds in temperate zones are the result of
a. descending air masses flowing toward the poles. b. the rotation of Earth. c. the unequal speed of land moving through space at the equator and the poles. d. A and B only e. A, B, and C
5. Deserts typically occur in a band at 30 degrees north and south latitude or at different latitudes in the interior of continents. This supports the idea that
a. descending air masses tend to be dry. b. trade winds have a little moisture. c. water is heavier than air and is not carried far over land. d. ascending air tends to be moist. e. these locations get more than their share of sunlight.
6. In an altitudinal gradient, all of the following would change in the same way as in a latitudinal gradient *except*
a. temperature. b. humidity. c. vegetation. d. day length. e. communities.
7. Which of the following is responsible for the summer and winter stratification of lakes?
a. Water is densest at 4°C. b. Oxygen is most abundant in deeper waters. c. Winter ice sinks in the summer. d. Stratification is caused by a thermocline. e. Stratification always follows the fall and spring turnovers.
8. You are interested in studying how organisms react to a gradient of abiotic conditions and how they coexist in this gradient. The best biome in which to conduct such a study is
a. mountains. b. an intertidal zone. c. a river. d. tropical forest. e. an eutrophic lake.
9. Which of the following statements best describes the effect of climate on biome distribution?
a. Knowledge of annual temperature and precipitation is sufficient to predict which biome will be found in an area.
b. Fluctuation of environmental variables is not important if areas have the same annual temperature and precipitation means. c. It is not only the average climate that is important in determining biome distribution, but also the pattern of climatic variation. d. Temperate forests, coniferous forests, and grasslands all have the same mean annual temperatures and precipitation. e. Correlation of climate with biome distribution is sufficient to determine the cause of biome patterns.
10. Within any given type of terrestrial biome
a. species composition is typically uniform. b. there is little or no vertical stratification. c. periodic disturbance is rare. d. A and B only e. None of the above is true.