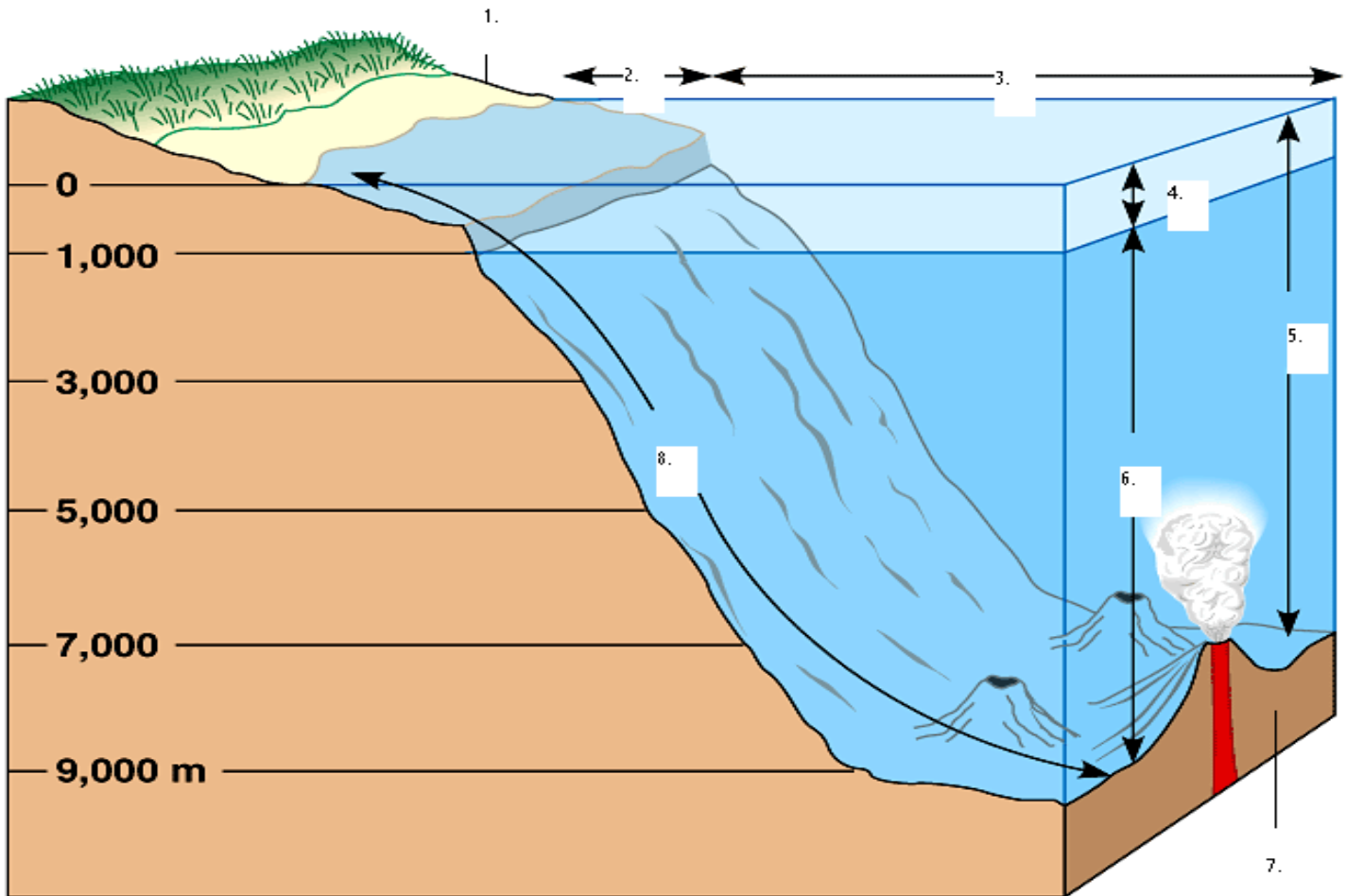




5. List and give examples of the four factors that ecologists examine to explain the geographic distribution of a species. (see figure 52.6 p.1152)
  - a.
  - b.
  - c.
  - d.
6. Distinguish between macroclimate and microclimate.
7. What are the 4 major components of climate?
8. Mountains affect local climate. Describe their influence in three of the following areas:
  - a. solar radiation
  - b. temperature
  - c. rainfall
9. Define the term "biome."
10. What does it mean when a scientist says that aquatic biomes are stratified?

11. Match the following zones to their corresponding numbers on the diagram.



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- |             |                |             |             |
|-------------|----------------|-------------|-------------|
| ___ abyssal | ___ benthic    | ___ neritic | ___ pelagic |
| ___ aphotic | ___ intertidal | ___ oceanic | ___ photic  |

12. What is the difference between a lake that is oligotrophic and one that is eutrophic?

Fill in the following chart for Aquatic biomes:

<b>Biome</b>	<b>Abiotic Characteristics</b>	<b>Biotic Characteristics</b>
Lakes		
Wetlands		
Streams and Rivers		
Estuaries		
Intertidal Zones		
Oceanic Pelagic Zone		
Coral Reefs		
Marine Benthic Zone		

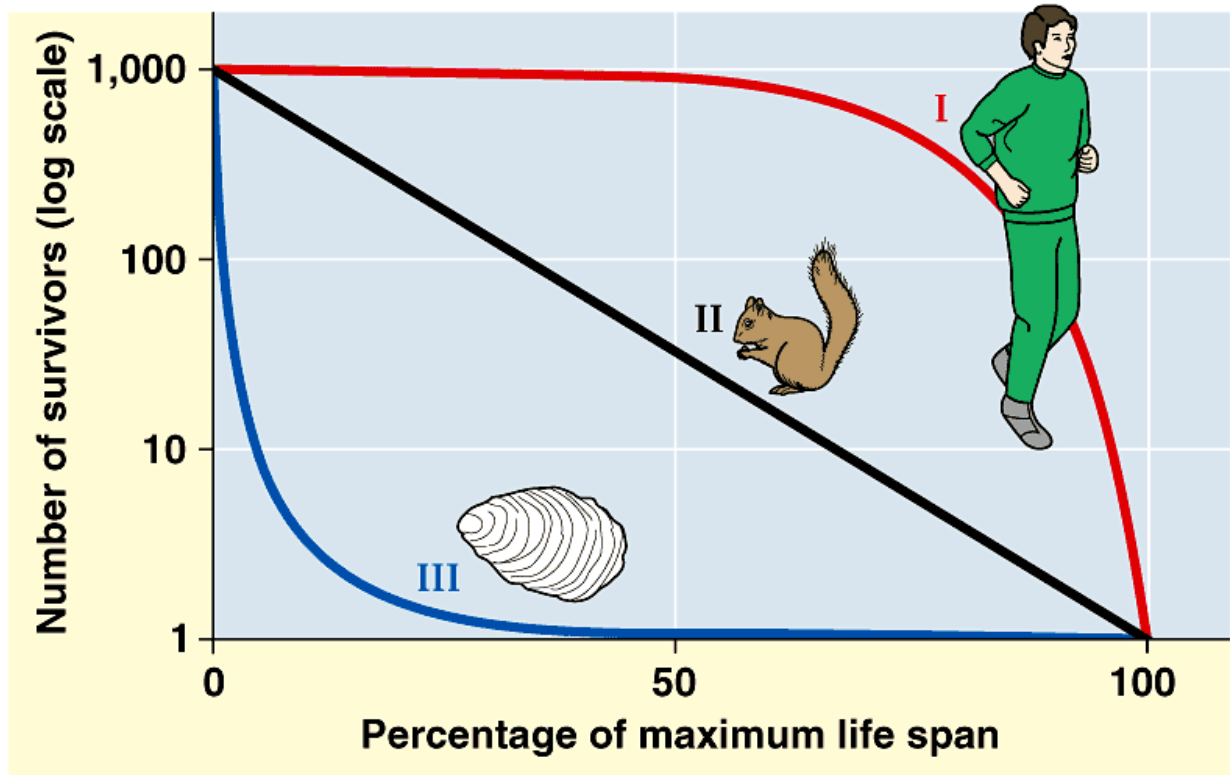
Fill in the following chart for terrestrial Biomes

<b>Biome</b>	<b>Abiotic Characteristics</b>	<b>Biotic Characteristics</b>
Tropical Forest		
Desert		
Savanna		
Chaparral		
Temperate Grassland		
Northern Coniferous Forest (taiga)		
Temperate Broadleaf Forest		
Tundra		





4. Use the diagram below, and describe the three different survivorship curves. Give an example of an animal (other than those pictured) that fits each curve and an explanation for why they do so.



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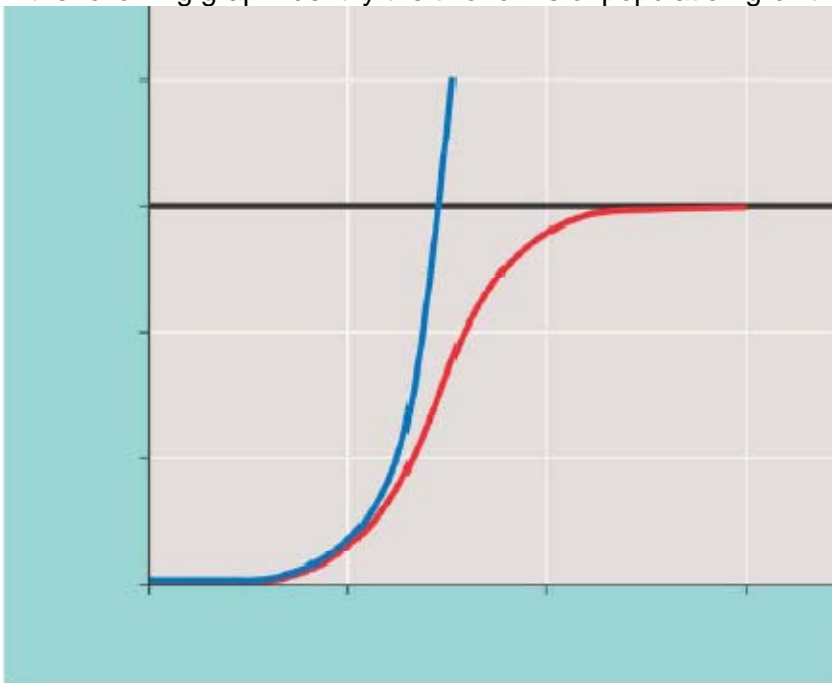
5. Compare and contrast semelparity with iteroparity –give an example of each as they apply to an example organism – focus on the adaptive benefit to the life history. Are there any disadvantages?

6. What is zero population growth?

7. What is exponential population growth?

8. Explain the logistic population growth model. How does “K” fit into this.

9. In the following graph identify the two forms of population growth.



10. Compare and contrast “r” and “K” selection.

11. What is the difference between “density-dependent” and density –independent” factors.

12. Describe six different density dependent factors in population regulation.

13. What is population dynamics?

14. After careful study of figures 53.22 and 53.23 on p. 1191, what has happened to the growth of the human population in the last 50 years? What is the projected trend for the human population in the next 50 years?

15. What kinds of information do age structure pyramids provide and what kind of inferences can be made from these?

16. How can an ecological footprint be useful?

**AP Biology**  
**Chapter 54 – Community Ecology**

**Name:** \_\_\_\_\_

1. Define interspecific interactions.
2. What is the relationship between interspecific interactions and the competitive exclusion principle?
3. Contrast the following terms: ecological niche, fundamental niche, realized niche, and resource partitioning.
4. Give an example of character displacement.
5. Define and give an example of the following physiological defense adaptations:
  - a. Cryptic coloration
  - b. Aposematic coloration
  - c. Batesian mimicry
  - d. Mullerian mimicry
6. Give an example of a plant defense against herbivory.
7. What is the difference between an endoparasite and an ectoparasite? Give an example of each.
8. Define and give two examples of mutualism.
9. Define and give two examples of commensalism.
10. Is the evolution of Batesian mimicry an example of co-evolution? Defend your answer.

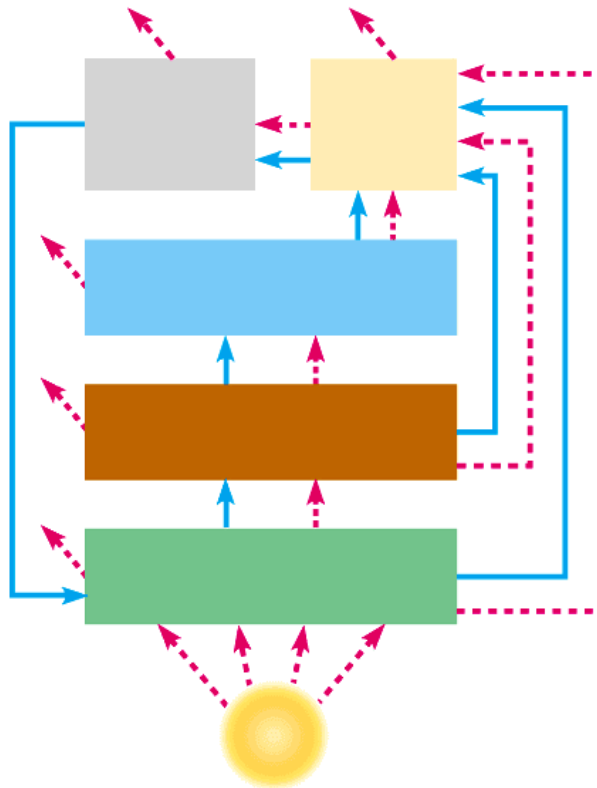


17. Compare and contrast primary and secondary succession.

18. Define evapotranspiration.

19. What is the Island Equilibrium model and how does it help us to better understand ecological changes?

1. What is an ecosystem and why is it necessary to study the energy flow within one?
2. Label the diagram below. ( Use Figure 55.4 as a reference)

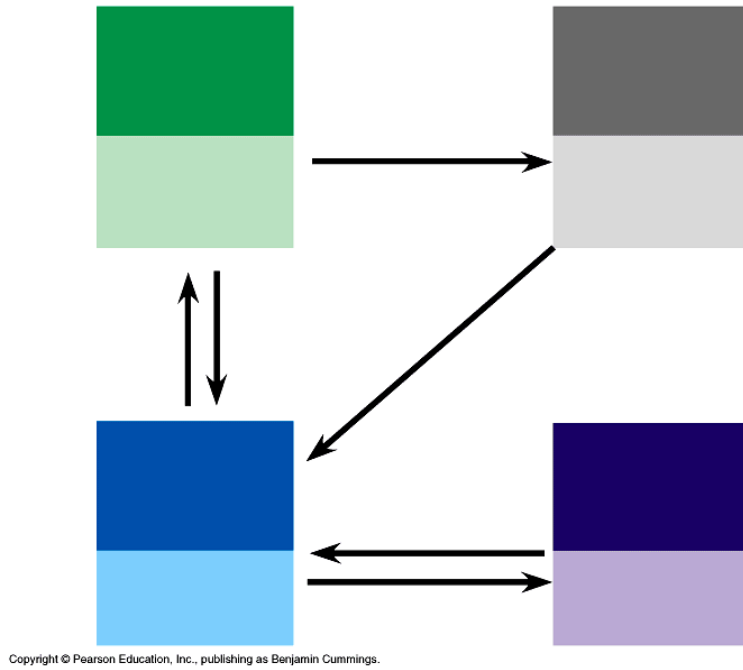


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3. Why are detritivores essential to an ecosystem
4. Define the following terms:
  - a. Gross primary product
  - b. Net primary product
5. How light and nutrient limitations impact primary production?



12. Complete the diagram below of the general model of nutrient cycling (Figure 55.13)



13. Briefly detail the water cycle. (Your response may be written or drawn).

14. Briefly detail the carbon cycle. (Your response may be written or drawn).

15. Briefly detail the nitrogen cycle. (Your response may be written or drawn).

16. What is the difference between nitrification, denitrification, ammonification and nitrogen fixation?

17. Briefly detail the phosphorus cycle. (Your response may be written or drawn).

18. Explain what acid rain is and why it is a problem.

19. What is the biological magnification and how does it relate to health warning given to pregnant women about the consumption of certain fish?



5. Explain how the following human caused problems threaten biodiversity.

- a. Habitat destruction

- b. Introduced species

- c. Overexploitation

- d. Disruption of interaction networks

6. Diagram the extinction vortex.

7. Contrast the “minimum viable population size” with the “effective population size.”

8. Pick one of the case studies presented in the chapter (greater prairie chickens, re-cockaded woodpeckers, or grizzly bears). Explain why the population was threatened and how conservation efforts were aimed towards helping the struggling population.

9. Why is conservation always a compromise between the organism involved and human needs?

10. How do fragmentation and edges affect habitats.

11. Compare the nature reserve approaches utilized by the United States and Costa Rica.

12. What is the goal of Restoration ecology?

13. Explain the concepts of “bioremediation” and “biological augmentation.”

14. What are the goals of sustainable development?