

Name_____ Period_____

Chapter 52: An Introduction to Ecology and the Biosphere

Overview

1. What is *ecology*?
2. Study Figure 52.2. It shows the different levels of the biological hierarchy studied by ecologists. Notice also the different types of questions that might be studied by an ecologist at each level of study. Use this figure to define or explain the following terms:

organismal ecology

population

population ecology

community

community ecology

ecosystem

ecosystem ecology

landscape ecology

biosphere

global ecology

Concept 52.2 Interactions between organisms and the environment limit the distribution of species

5. What is *biogeography*? What factors determine the distribution of organisms?
6. Read this section carefully to understand different types of experiments and observations that help explain the distribution of species. As you conclude this section, list and describe five examples of *biotic factors*.

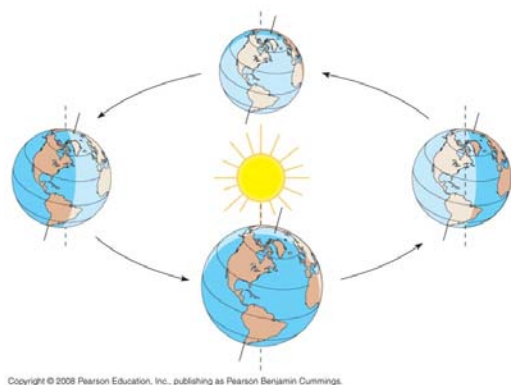
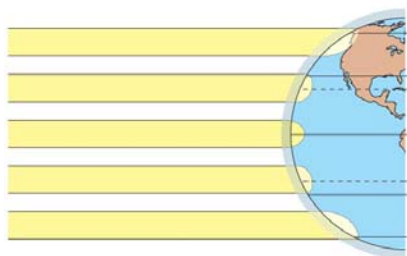
Biotic Factor	Example and Description

7. List five abiotic factors. Include an example and description of each factor's influence on living organisms.

Abiotic Factor	Example and Description

8. What is *climate*? What abiotic factors are its components?

9. Study Figure 52.10, which summarizes Earth's climate patterns and how they are formed. Explain how Earth's curvature and axis of rotation influence the amount of sunlight reaching a given area, and how these factors influence the temperature and precipitation in that area.



10. Let's look at factors that affect climate on a smaller scale. Begin by studying Figure 52.11. Why is the Pacific Northwest so rainy? What causes the Mediterranean climate?

11. Explain the “rain shadow” effect.
12. What effect does elevation have on climate? Why do we say that hiking from Gatlinburg, Tennessee, at 393 meters of elevation in the Smoky Mountains region, to the top of Mount LeConte, at 2010 meters, is like traveling to Canada?