	Name	Period
Cha	hapter 52: An Introduction to Ecology and the Biospher	re
Ovei	verview	
1.	What is <i>ecology</i> ?	
2.	Study Figure 52.2. It shows the different levels of the biological ecologists. Notice also the different types of questions that might each level of study. Use this figure to define or explain the follows:	nt be studied by an ecologist at
	organismal ecology	
	population	
	population ecology	
	community	
	community ecology	
	ecosystem	
	ecosystem ecology	
	landscape ecology	
	biosphere	
	global ecology	

Concept 52.1 Ecology integrates all areas of biological research and informs environmental decision making

3. Contrast the terms *ecology* and *environmentalism*. How does ecology relate to environmentalism?

4.	What environmental issue was targeted in Rachel Carson's book, Silent Spring? What was the
	outcome of her efforts?

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

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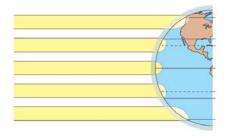
6. Read this section carefully to understand different types of experiments and observations that help explain the distribution of species. As you conclude this section, list and describe five examples of *biotic factors*.

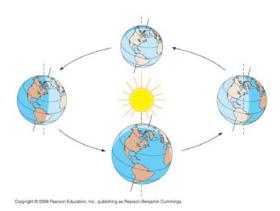
Biotic Factor	Example and Description

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?
Con	cept 52.3 Aquatic biomes are diverse and dynamic systems that cover most of Earth
13.	What is a <i>biome</i> ?
14.	What is the largest marine biome, and how much of Earth's surface does it cover?
15.	As you read this section and study Figure 52.18, you will encounter a number of new terms. Distinguish between each of the following pairs of terms:
	photic/aphotic
	benthic/pelagic
	oligotrophic/eutrophic
	littoral zone/limnetic zone
	zooplankton/phytoplankton
	neritic/abyssal

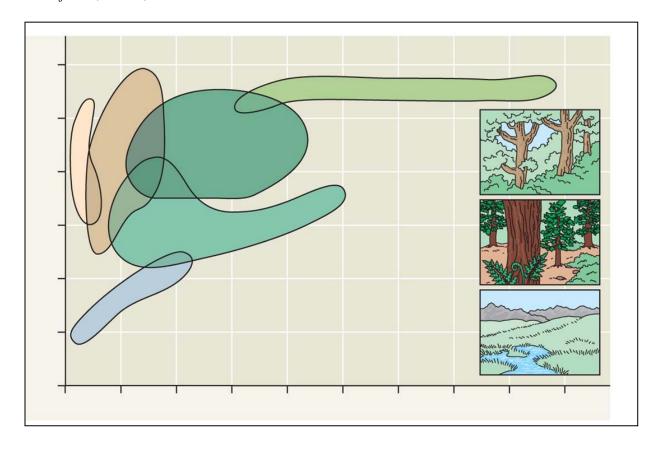
16. The aquatic biomes are listed in the chart. Give a description of the biome below its name, and then complete the other parts of the chart.

Aquatic Biome	Typical Autotrophs	Typical Heterotrophs	Human Impact
Lakes			
W-41 1-			
Wetlands			
Streams and rivers			
Estuaries			
Intertidal			
Oceanic pelagic			

Concept 52.4 The structure and distribution of terrestrial biomes are controlled by climate and disturbance

17. Figure 52.20 shows a *climograph* for some major biomes in North America. What two abiotic factors shown here are most important in determining the distribution of the biome?

18. Label the axes of this figure, and identify each biome shown here. Try to do this based on your understanding of the figure, and then use the text to check your answers. You will use these biomes: *temperate grassland, temperate broadleaf forest, tropical forest, northern coniferous forest, desert, tundra*.



19. Describe each major terrestrial biome as to rainfall, temperature, location, and representative flora and fauna.

tropical forest

desert

savanna

c	chaparral								
t	emperate ş	grassland							
n	orthern co	oniferous	forest/taig	ga					
t	emperate l	oroadleaf	forest						
t	undra								
	<i>ig Your Kn</i> o you should				e. Place yo	our answers	here:		
1	2	3	4	5	6	7	8	9	