

At first this chapter might seem like a list of travel descriptions but pay close attention to section 59.1. If you understand the impacts of sun, water and wind you can more easily infer the conditions of the biomes. The importance of the biomes lies in the connections between adaptations and selection.

1. In your own words, explain the relationship between the angle of sunlight and intensity of that light.
2. In your own words, explain why summer in the northern hemisphere is winter in the southern hemisphere?
3. At what latitude is there the greatest variation in monthly temperatures AND why do you think I asked this question?
4. Why do you think a biology book would explain global air circulation? What is important about it?
5. Study figure 59.4. Consider hot air rising and the formation of clouds, make one prediction of the specifics of ocean circulation on a coast. EXPLAIN your prediction.
6. Why are the conditions on two different sides of a mountain slope so different?
7. For each of the biomes listed below, write a brief description including temperature, precipitation and variability in conditions.

- a. Tropical rain forest
  - b. Savanna
  - c. Desert
  - d. Temperate grassland
  - e. Temperate deciduous forest – my favorite (fyi)
  - f. Temperate evergreen forest
  - g. Taiga
  - h. Tundra
8. Study figure 59.9 – summarize the graphs in your own words.
9. Define the following terms regarding aquatic habits.
- a. Photic zone
  - b. Aphotic zone
  - c. Littoral zone
  - d. Thermal stratification

e. Benthic zone

f. Pelagic zone

g. Intertidal region

h. Neretic Zone

i. Oligotrophic lake

j. Eutrophic lake

10. How does the annual cycle of thermal stratification connect with the living organisms in lakes?

11. The open ocean is so vast yet it has low primary productivity. Why does this statement appear to be a contradiction?

12. Why are coral reef ecosystems so important?

13. How can an el nino effect in the Southern Hemisphere affect the Northern Hemisphere?

14. How can there be life in the deep sea without sunlight?

15. What is biological magnification?
16. Briefly describe the human impact on the biosphere below:
- a. pollution
  
  - b. acid rain
  
  - c. deforestation and habitat loss
  
  - d. ozone depletion
17. Using the terms carbon dioxide, global warming and greenhouse gases in few sentences making the connections between the terms.