

Unit 2 Study Guide

Chapter 3

1. Be very familiar with **photosynthesis** and **respiration** – what are the products? reactants?
2. What are **producers**? What are they also known as?
3. What are **consumers**? What are they also known as?
4. What is a **food chain**? **food web**?
5. What are **trophic levels**? What do they represent? Know examples of each.
6. Why do we generally only see 3 or 4 trophic levels in a food chain?
7. What is **decomposition**? Why is it important?
8. What is **NPP**? How do you calculate it for an ecosystem?
9. **Know the biogeochemical cycles very well – CHONPS – carbon, hydrologic, nitrogen, phosphorus, sulfur**
10. Review Module 7 diagrams for each cycle and be able to track different **states of matter, sources, and sinks**.
11. What is **leaching**?

Chapter 4

12. Know the difference between **climate** and **weather**.
13. Be familiar with the 5 layers of the atmosphere – **TSMTE** – Tropo, Strato, Meso, Thermo, Exo
14. Earth experiences an **unequal heating** of its surface – know the reasons why.
15. What causes the **seasons**?
16. Why do the poles get less solar radiation per unit area?
17. What is the **ITCZ**? What are **Hadley** cells?
18. What is a **rain shadow**?
19. What is the **thermohaline circulation**? Combined with air currents, what is it responsible for?
20. What is **ENSO**?
21. **Be familiar with all of the biomes in Modules 12 and 13** – map on page 123.
22. Review biome chart!
23. Know both the **freshwater** and **marine zones**. (pages 134 and 138)
24. What's the difference between a **eutrophic** and **oligotrophic** lake?

Chapter 5

25. What is **evolution**?
26. What is **speciation**?
27. What is **extinction**?
28. **Biodiversity** is a combination of what two things?
29. Distinguish between **species richness** and **species evenness**.
30. Distinguish between **genotype** and **phenotype**.
31. What is **natural selection**? What does survival of the fittest mean?
32. Are **mutations** bad?
33. What is **genetic drift**?
34. Distinguish between **allopatric** and **sympatric speciation**.
35. What is **geographic isolation** and what can it lead to?
36. What's the difference between **fundamental niche** and **realized niche**?
37. Compare a **niche generalist** with a **niche specialist**.
38. How many **mass extinctions** have there been? What's happening now?