

Environmental Science
Chapter 9 Review Questions

9.1 - HOW MUCH CAN WE GROW?

9.2 - BIOLOGICAL PRODUCTION

1 - What is biological production? What are the two types and how do they differ?

2 - Describe how a tree can be used to demonstrate the difference between gross production and net production.

3 - Familiarize yourself with the concepts presented in Working It Out #s 1 and 2.

9.3 - ENERGY FLOW

4 - What are the two ways that energy can enter an ecosystem?

9.4 - THE ULTIMATE LIMIT ON THE ABUNDANCE OF LIFE

5 - Why is the ecosystem shown in figure 9.7 an impossible ecosystem? (Be sure to discuss the second law of thermodynamics as part of your answer.)

6 - What is meant by the term “energy sink?”

7 - Describe the trophic level efficiency of: plants, managed ecological efficiency, natural trophic level efficiency. Why is there a difference between the last two? What is the general rule of thumb for trophic level efficiencies?

9.5 - SOME EXAMPLES OF ENERGY FLOW

8 - Using the percents in paragraph two of page 172, determine what percent of the gross primary production finds its way to the last weasel.

9- Why is the production of herbivorous fish in the amazon so high?

10 - Why do ocean ecosystems “depend on an external input of energy as the base of energy flow?”

Critical Thinking - Should People Eat lower on the food chain?

Answer Questions # 1 - 5 from page 173