**Ecology Study Guide**

1. Number the following categories in order from smallest to largest.

\_\_\_\_Biome \_\_\_\_ Community \_\_\_\_Biosphere \_\_\_\_Population \_\_\_\_Ecosystem

1. Describe what happens in a predator/prey relationship?
2. What is the difference between parasitism and mutualism?
3. What is the difference between biotic and abiotic?
4. What are the roll of producers?
5. Study the diagram below. Complete the table below by listing the organisms that occupy each trophic level.

|  |  |
| --- | --- |
| Producers |  |
| Primary Consumer |  |
| Secondary Consumer |  |
| Tertiary Consumer |  |



1. In the diagram above, what is the relationship between the rabbit and cougar?
2. In the diagram above, what type of heterotroph is the Deer? Mouse? Cougar?
3. In a food web, the arrows show the flow of?
4. Why are decomposers important to the ecosystem?
5. Name 4 reasons why only 10% of energy is transferred from one trophic level to the next.
6. Explain how decomposition contributes to the carbon cycle.
7. What is the role of plants in the carbon cycle?
8. How does burning of fossil fuels impact the carbon cycle?
9. What role do humans play in the carbon cycle?
10. What is the role of bacteria in the nitrogen cycle?
11. Draw and label a graph that illustrating exponential growth meeting its carrying capacity.
12. What are 3 factors that affect population size?
13. How do limiting factors affect population growth?
14. List 3 resources that might become scarce as the human population continues to grow.
15. List & explain some ways that humans can have a negative impact on an ecosystem.
16. What are the effects of deforestation to the ecosystem?
17. Name 2 factors that increase global warming and 2 factors that decrease global warming.
18. How is the greenhouse effect connected to global climate change?
19. What are the hazards of using pesticides?
20. Eutrophication is caused by which chemicals?
21. What is an invasive species and how is it harmful to the ecosystem?
22. In bio-magnification (bio-accumulation), which trophic level has the highest concentration of pesticide?



1. According to the above diagram which population is growing rapidly?
2. Give two examples on how to reduce your ecological footprint.
3. What are some benefits and negative effects of Hog farms?
4. Draw a simple diagram on how CO2 cycles through the ecosystem.
5. Why were Jetties built on the coast?
6. Pfisteria infects which organisms?
7. Dutch Elm disease effects which organisms?