## How does energy flow through an ecosystem?

http://www.mhhe.com/biosci/genbio/virtual\_labs/BL\_02/BL\_02.html

Go to the website listed above. Read the information on the left and follow the directions to complete this online Lab.

## **Energy Conversion Efficiency for Ecosystem Trophic Levels**

Fill in the table when you finish with each ecosystem.

Ecosystem	Producers	First Order	Second Order	Third Order
		Heterotrophs	Heterotrophs	Heterotrophs
Deciduous Forest				
Hot Desert				
Grassland				
Antarctic Ocean				
Shore				
Freshwater Lake				

Answer the following questions when finished with the Lab. Use a separate piece of paper to record your answers.

- 1. Suggest reasons why the information represented in the pyramid of numbers of animals of one of the ecosystems you studied may not truly represent that ecosystem.
- 2. According to your data, what is the ratio of third-order consumers to producers? Explain your answer.
- 3. Compare and contrast two of the ecosystems you studied. How is the energy conversion efficiency similar or different?
- 4. Does the population size increase or decrease at higher trophic levels in the pyramid of numbers of an ecosystem consisting of a tree, insects (that are herbivores) and birds feeding on the insects? Explain your answer.
- 5. What might happen to an ecological pyramid of numbers in a forest ecosystem if most of the deer were killed due to hunting by people and disease?
- 6. What would happen to an ecosystem if the decomposers disappeared?
- 7. Could there be a food chain without herbivores and carnivores?