

# Ecological Pyramids

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## OBJECTIVE:

Students will demonstrate the relationships among ecological components by organizing them into energy pyramids.

## PROCEDURE:

1. Coloring your diagram
  - a) Shade the first (bottom) level of each pyramid green. This is the *widest level* of the pyramid.
  - b) Shade the second level of each pyramid yellow.
  - c) Shade the third level of each pyramid blue.
  - d) Shade the fourth (top) level of each pyramid red. This is the *smallest level* of the pyramid.
2. Label each level of the first pyramid **SIDE** with the following terms - **YOU MUST DECIDE WHICH TERM BELONGS ON WHICH LEVEL**
  - **Tertiary Consumer, Producer, Secondary Consumer, Primary Consumer**
3. Label each level of the second pyramid **SIDE** with the following terms. Again, you must decide which term belongs on which level.
  - **Carnivores, Autotroph, Herbivore, Top Carnivore**
4. Label each level of the third pyramid **SIDE** with the following terms. Again, you must decide which term belongs on which level.
  - **Heron, Zooplankton, Sunfish, Phytoplankton**
5. On the fourth pyramid side, label the first (bottom) level of the pyramid with "500,000 calories". This is the amount of available energy for this level. Calculate the amount of available energy for each additional level and label.
6. Fold your pyramid on the lines radiating from the center and tape it together.

## ANALYSIS:

*On your own sheet of paper, answer the following questions. Use complete sentences.*

1. Why does the amount of available energy decrease as you move up the levels of the pyramid?
2. If this were a pyramid of numbers, which level would most likely have the largest number of organisms? The smallest number? Why?
3. What type of important organism was not included in this ecological pyramid? Why is this organism important to the environment?
4. What would happen to the organisms in this pyramid if the producers disappeared? Why?
5. If 1000 grasshoppers weigh 3g each, how many grams of energy will they supply to a frog?

