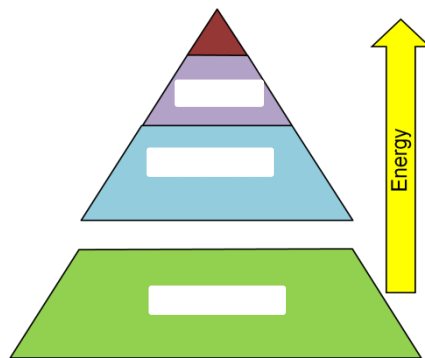


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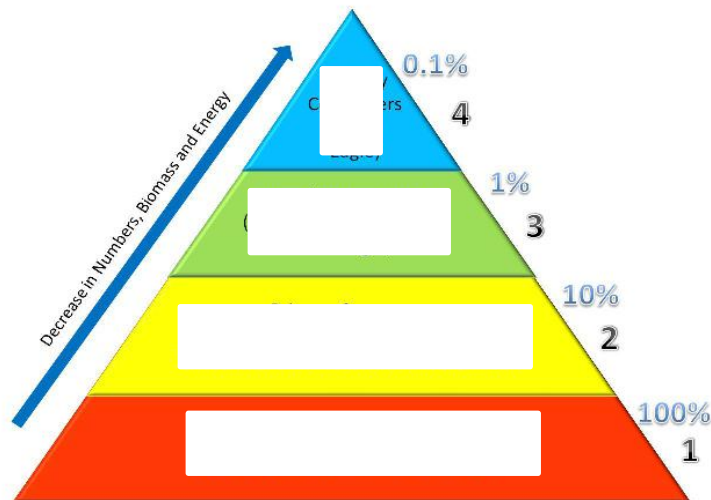
Ecological Pyramids

Introduction

An energy pyramid illustrates how energy flows through an ecosystem. By showing the trophic (feeding) levels of the ecosystem, one can easily visualize how energy is transferred from producers to consumers. Each link in a food chain is known as a **trophic level**. The trophic level represents a feeding step in the transfer of energy and matter in an ecosystem.



As you move up the energy pyramid the amount of available energy **decreases** because organisms in each trophic level use the energy for life processes (movement, growth, reproduction) and the energy is released as heat from the body. This is the (**RULE OF 10s**) only about 10% of the energy at any given level is transferred to the next.



Directions to make your Ecological Pyramid Foldable:

1. Using colored pencils shade the first (bottom) level of the pyramid green.
2. Shade the second level of the pyramid yellow.
3. Shade the third level of the pyramid blue.
4. Shade the fourth (top) level of the pyramid red.
5. On the FRONT of the pyramid label the following terms in the correct order:
Tertiary consumer, Producer, Secondary Consumer, Primary Consumer.
6. On the INSIDE RIGHT of the pyramid
 - a. Write the following terms in the correct order: **Herbivores, Top Carnivores, Plants, Carnivores**
 - b. Also label the levels with the correct amount of energy: **100%, 1%, 0.1%, and 10%**
7. On the INSIDE LEFT of the pyramid
 - a. Write the following terms in the correct order: **1st order heterotroph, 3rd order heterotroph, autotroph, and 2nd level heterotroph**
 - b. Draw a picture of (and label) an organism that might belong in each level.
8. Cut your pyramid out along the solid lines; fold on the dashed lines; and do nothing to the dotted lines
9. Glue or tape your pyramid foldable into your notebook.
10. Draw an arrow alongside your pyramid to show the direction of energy flow.

Questions

1. What type of organisms consumes the most energy?
2. What type of consumer get the least amount of energy from their food?
3. How much energy transfers from one level to the next?
4. What do you think happens to the energy that does not transfer to the next level?
5. What three terms would you use (based on your pyramid) to describe humans?
6. What three terms would you use (based on your pyramid) to describe trees?