**Ecological Pyramids**

Trophic levels in any ecosystem can be arranged in the form of a “pyramid”. The first trophic level is placed on the bottom and subsequent trophic levels are stacked on top. These ecological pyramids can illustrate changes in numbers of organisms, biomass (weight), or energy content at each level.

Tertiary consumer

Secondary consumer

Primary consumer

Producer

**Numbers Biomass Energy**

Displays energy available at each trophic level. Often very similar to biomass because sets of data are generally comparable.

Displays the dry “weight” of biological material at each trophic level. Also accounts for organism size.

Display the numbers of individuals at each trophic level. The pyramid above shows few producers, but they may be of large size.

1. Describe what is measured by:
   1. Number pyramid: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Biomass pyramid: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Energy pyramid: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Explain the advantage of using a biomass or energy pyramid rather than a pyramid of numbers to express the relationship between different trophic levels.
3. Explain why it is possible for a forest community to have very few producers supporting a large number of consumers.

**Energy Pyramid for Plankton Community**

Use the energy pyramid to calculate the energy transfer between:

4. Producers and primary consumers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Primary and secondary consumers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Explain where the rest of the energy was lost to.

12 kJ

142 kJ

8690 kJ