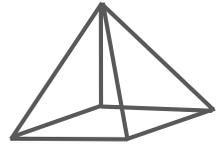


Ecological Pyramids

The amount of energy or matter in an ecosystem can be represented by an ecological pyramid.

An _____ is a diagram that shows the relative amounts of energy or matter contained within each trophic level in a food chain or food web.



Ecologists recognize three different types of ecological pyramids:

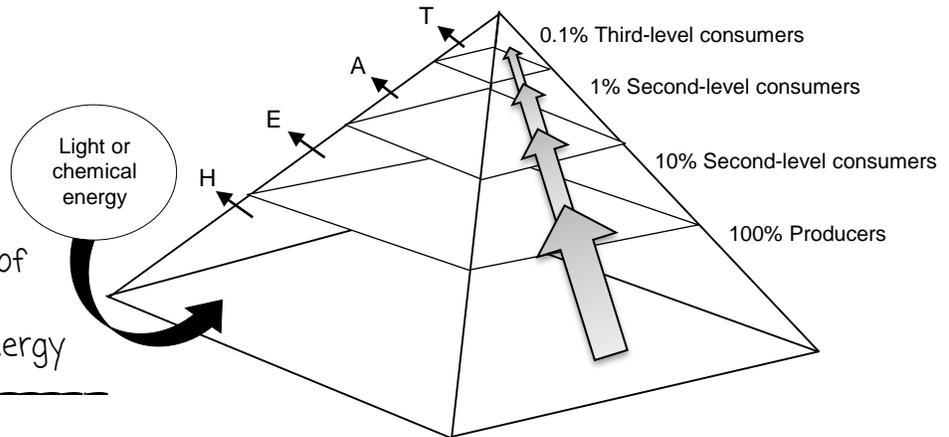
1. _____
2. _____
3. _____

Energy Pyramid

Only about _____ of the energy available within one trophic level is _____ to organisms at the next trophic level.

The diagram shows the relative amount of energy available at each trophic level.

Organisms use about _____ of this energy for life processes. The rest is lost as _____

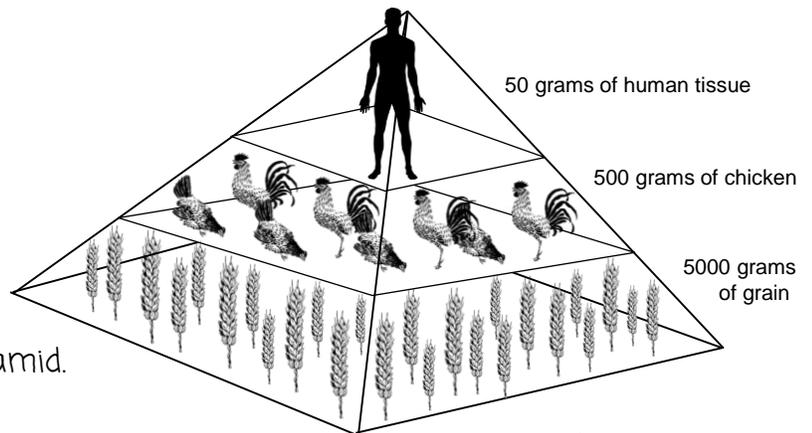


Biomass Pyramid

The total amount of living tissue within a given trophic level is called _____

A biomass pyramid represents the amount of _____ available for each trophic level in an ecosystem.

The diagram shows the amount of living organic matter at each trophic level. Typically, the greatest biomass is at the _____ of the pyramid.



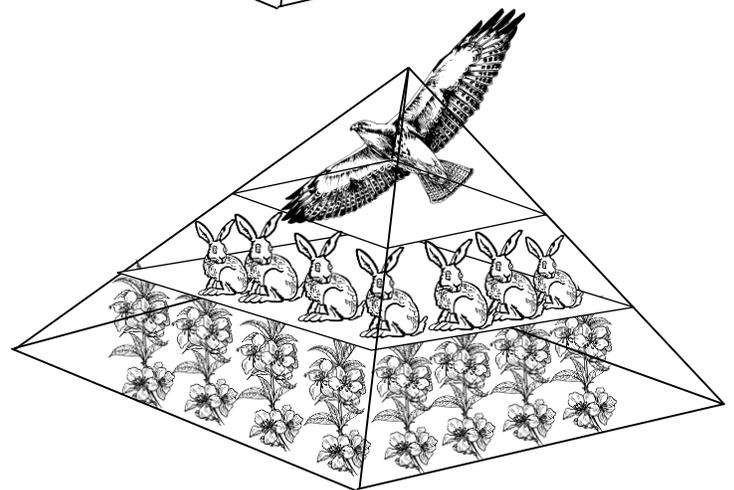
Pyramid of Numbers

The diagram shows the relative number of _____ organisms at each trophic level.

For some ecosystems, such as the meadow shown in the diagram, the shape of the pyramid of numbers is the same as of the energy and biomass pyramids.

However, this is not always the case. In most forests, there are _____ producers than there are consumers. A single tree has a large amount of _____ and _____, but it is only one organism.

Many insects live in the tree, but they have less _____ and _____. Thus, a pyramid of numbers for a forest ecosystem would not resemble a typical pyramid at all.

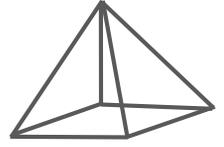


Remember: because each trophic level harvests only about _____ of the energy from the level below, it can support only about _____ the amount of living tissue.

Ecological Pyramids

The amount of energy or matter in an ecosystem can be represented by an ecological pyramid.

An ecological pyramid is a diagram that shows the relative amounts of energy or matter contained within each trophic level in a food chain or food web.



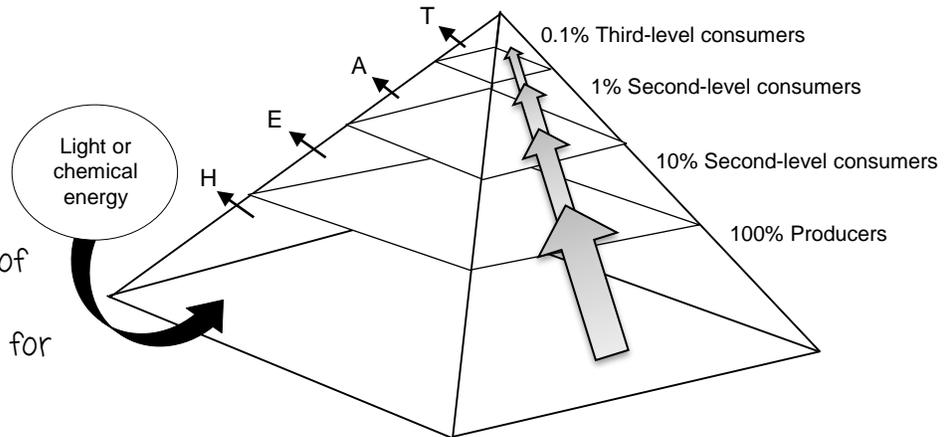
Ecologists recognize three different types of ecological pyramids:

1. Energy Pyramids
2. Biomass Pyramids
3. Pyramids of Numbers

Energy Pyramid

Only about 10 percent of the energy available within one trophic level is transferred to organisms at the next trophic level.

The diagram shows the relative amount of energy available at each trophic level. Organisms use about 10 % of this energy for life processes. The rest is lost as heat.

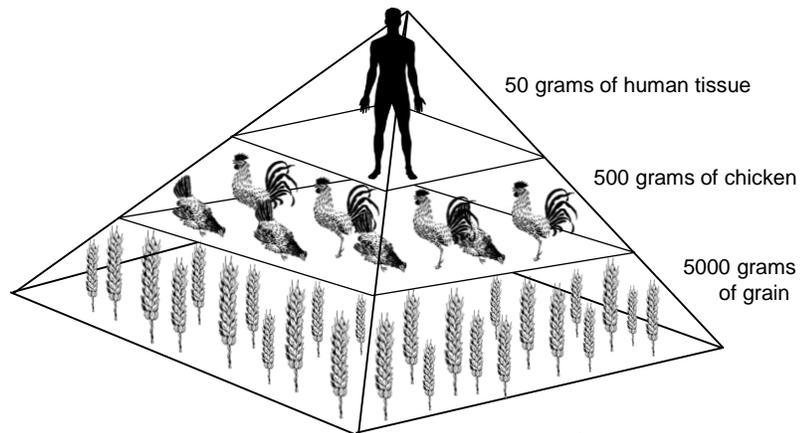


Biomass Pyramid

The total amount of living tissue within a given trophic level is called biomass.

A biomass pyramid represents the amount of potential food available for each trophic level in an ecosystem.

The diagram shows the amount of living organic matter at each trophic level. Typically, the greatest biomass is at the base of the pyramid.



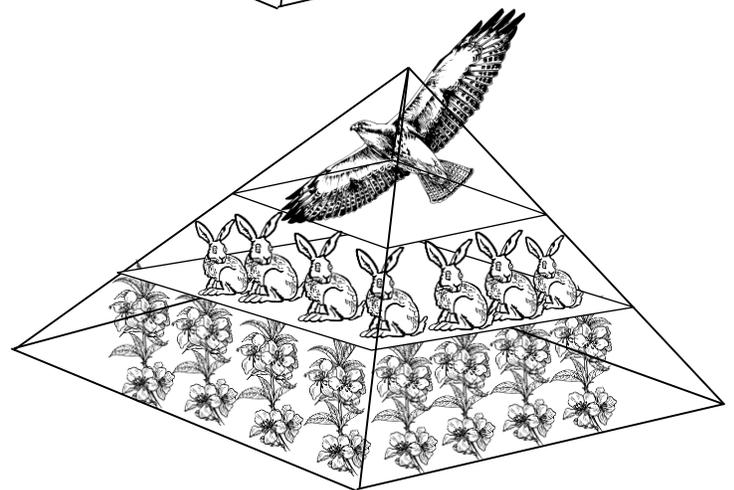
Pyramid of Numbers

The diagram shows the relative number of individual organisms at each trophic level.

For some ecosystems, such as the meadow shown in the diagram, the shape of the pyramid of numbers is the same as of the energy and biomass pyramids.

However, this is not always the case. In most forests, there are fewer producers than there are consumers. A single tree has a large amount of energy and biomass, but it is only one organism.

Many insects live in the tree, but they have less energy and biomass. Thus, a pyramid of numbers for a forest ecosystem would not resemble a typical pyramid at all.



Remember: because each trophic level harvests only about one tenth of the energy from the level below, it can support only about one tenth the amount of living tissue.