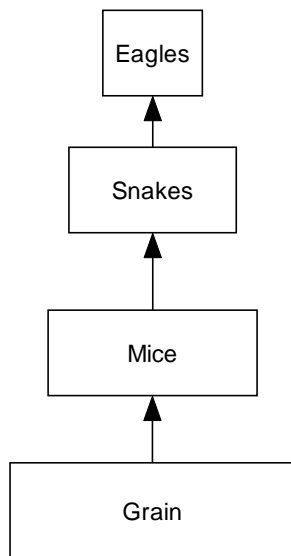




Food Pyramids

When an animal is at the 'top of the food chain', this means it is rarely if ever eaten by another animal. Humans, eagles and lions are examples of animals found at the top of a food chain or food pyramid.

A food pyramid is similar to a food chain, except a pyramid also shows the number or total biomass of plants and animals. Biomass is the dry mass of the organisms in a food pyramid. It measures how much the plants and animals in a food chain would weigh if they were dried out, leaving only biological material.



Eagles at the top of this food chain or food pyramid are third order consumers. There are fewer eagles than snakes.

Snakes in this food pyramid are second order consumers. Animals that eat both plants and animals are called omnivores, while animals that mostly eat meat are called carnivores.

Mice are first order or primary consumers. Animals (like mice) that eat plants are called herbivores. They are usually found on this next level.

Plants (such as grain) are producers. Plants are found at the very bottom of a food pyramid. They're called producers because they make their food using the process of photosynthesis.

A predator gains chemical energy when it eats prey. This energy is used by the predator to perform activities, such as fly, run or simply breathe. Some of this energy is also lost as body heat and is not available to the predator in the next step of the pyramid. Because there is less energy available to animals in the upper levels, there are fewer predators found in the upper levels of a food pyramid.

New research by scientists called ecologists shows that in meat-eating mammals (from weasels to bears), every kilogram that they weigh needs 111 kilograms of prey to sustain the predator.

More Information

Nature 25 March 2002 The rule of the game. Every kilogram of predator needs fixed amount of prey. <http://www.nature.com/nsu/020318/020318-12.html>

Recognising Bats in the Balance of Nature <http://www.batcon.org/disco/disco.html>

Environmental Biology—Ecosystems <http://www.marietta.edu/%7Ebiol/102/ecosystem.html#Pyramids5>

The Flow of Energy in Ecosystems <http://www.biologie.uni-hamburg.de/b-online/e54/54c.htm>

Food Chains <http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/F/FoodChains.html>