Food Webs and Energy Flows

What is the food chain?
Energy flows through an ecosystem as one animal eats another animal or plant. A food chain shows "who eats who" in an ecosystem.
For example: A hawk -— -eats a mouse who — eats a caterpillar who — eats leaves.

Each part of the food chain has a name:
Plants make (produce) their own food using water, sunlight and carbon dioxide (photosynthesis). Plant start the food chain. There are more plants than any other living thing because they are the bottom of the food chain. They provide the energy for everything else. They are the **PRODUCERS.**

The animals (insects, mice, chipmunks, squirrels, rabbits, deer) that mostly eat plants are called the herbivores. There are fewer herbivores than there are plants because each herbivore needs a lot of plant matter to live. Herbivores feed directly on the producers. They are the **PRIMARY CONSUMERS.**

Animals (spiders, birds, snakes) who eat the primary consumers (herbivores) are the **SECONDARY CONSUMERS**. There are fewer secondary consumers than there are primary consumers because each secondary consumers needs to eat a lot of primary consumers to live.

Animals (fox, coyotes, eagles, owls) who eat the 1st & 2nd consumers are carnivores (they eat meat). They are the **TERTIARY CONSUMERS.** There are fewer tertiary consumers than there are secondary consumers because each tertiary consumers needs to eat a lot of secondary consumers to live.

Because there are fewer animals as you move up the food chain, it is really a food pyramid with the big carnivores needing to eat the most and so being the rarest of the animal kingdom.
Because animals eat so many things, the food chain has many overlapping parts, so is really a **FOOD WEB**.

Last but not least, the **DECOMPOSERS** eat and so recycle dead animals and plants (mushrooms, fungi, insects, bacteria). They are then consumed themselves by other parts of the food web. Nothing is wasted.

Something to think about: *In a food web, if an important animal is taken out, and there are no other animals to take its place, it can affect all the other animals in the food web. This animal is called a* ***KEYSTONE SPECIES****. An example of this is the American alligator. Thirty years ago it was hunted so much in the everglades that it all but disappeared. What people didn't realize was that the American alligator's main food is the gar, a big everglade fish. The gar in turn eats a lot of the same fish people like (referred to as game fish). When the American alligator disappeared, the gar (with no other predator) became very plentiful. All the extra gar ate all the game fish. Suddenly fisherman noticed that all the game fish had disappeared and there were gar everywhere. The food web was out of balance. Once the American alligator was protected from hunting, its numbers rose quickly. In turn the number of gar decreased. Soon the game fish returned. The balance was restored.*

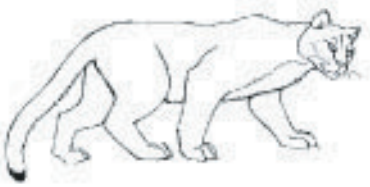
Decomposers




Tertiary Consumers
Carnivores



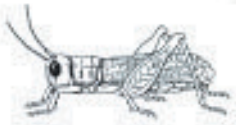




Secondary Consumers
Carnivores



Primary Consumers
Herbivore (mostly)





Producers