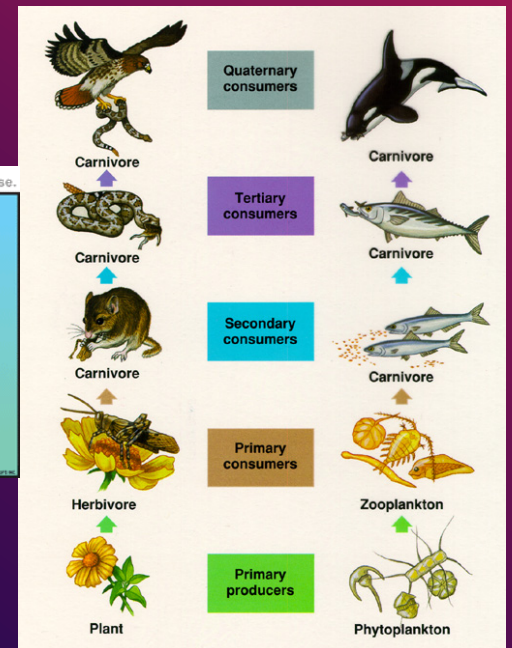
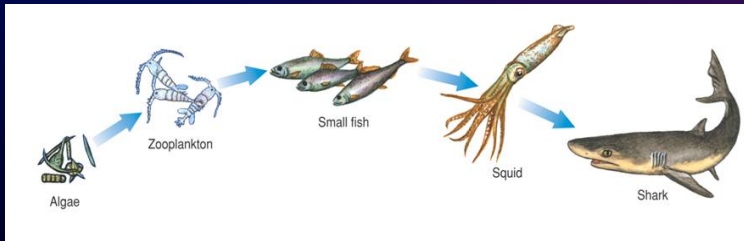


Chapter 13 Principles of Ecology

13.4 Food Chains and Food Webs

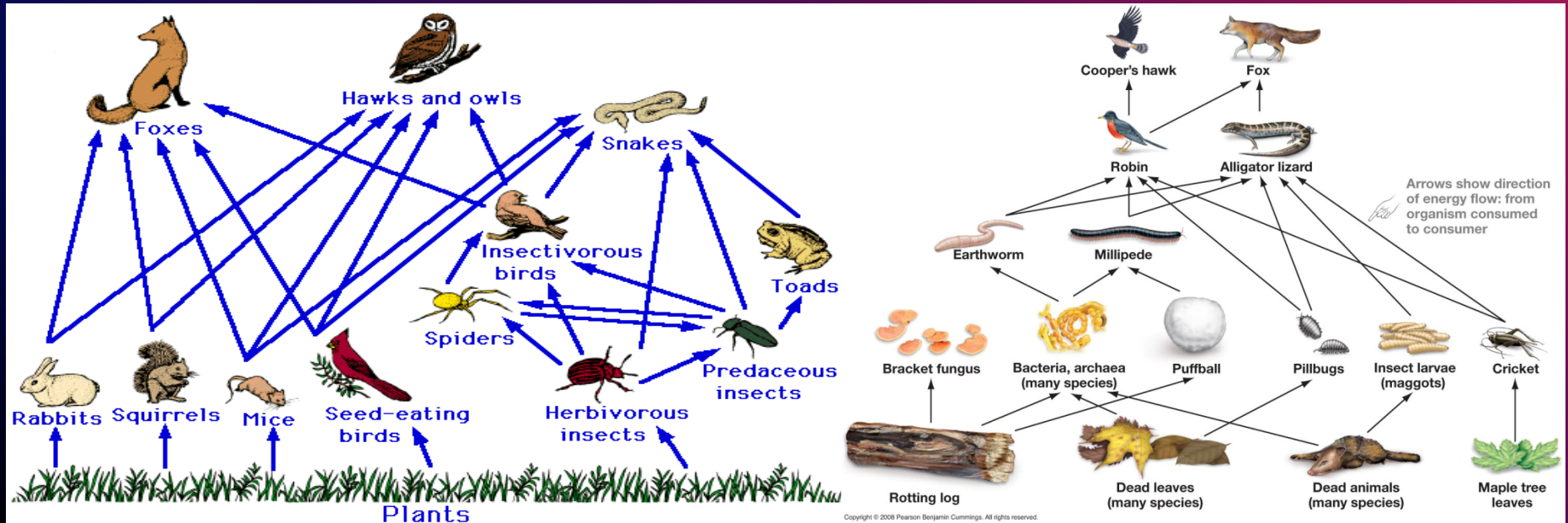
I. A food chain is a model that shows a sequence of feeding relationships

A. Food chains are a series of steps (trophic levels) in which energy is transferred from organism to organism by eating.



II. A food web shows a complex network of feeding relationships.

A. **Food webs** are the network of complex feeding relationships among organisms in an ecosystem, linking all the food chains together.

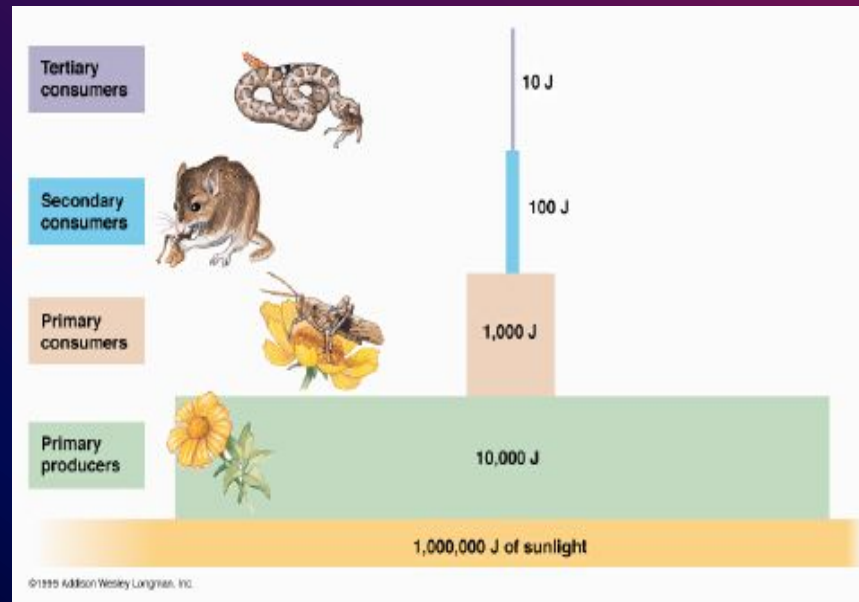


13.6 Pyramid Models

I. Pyramids model the distribution of energy and matter in an ecosystem.

A. **Ecological pyramids** show the amount of energy available in a trophic level.

How much energy is passed on to the next level?



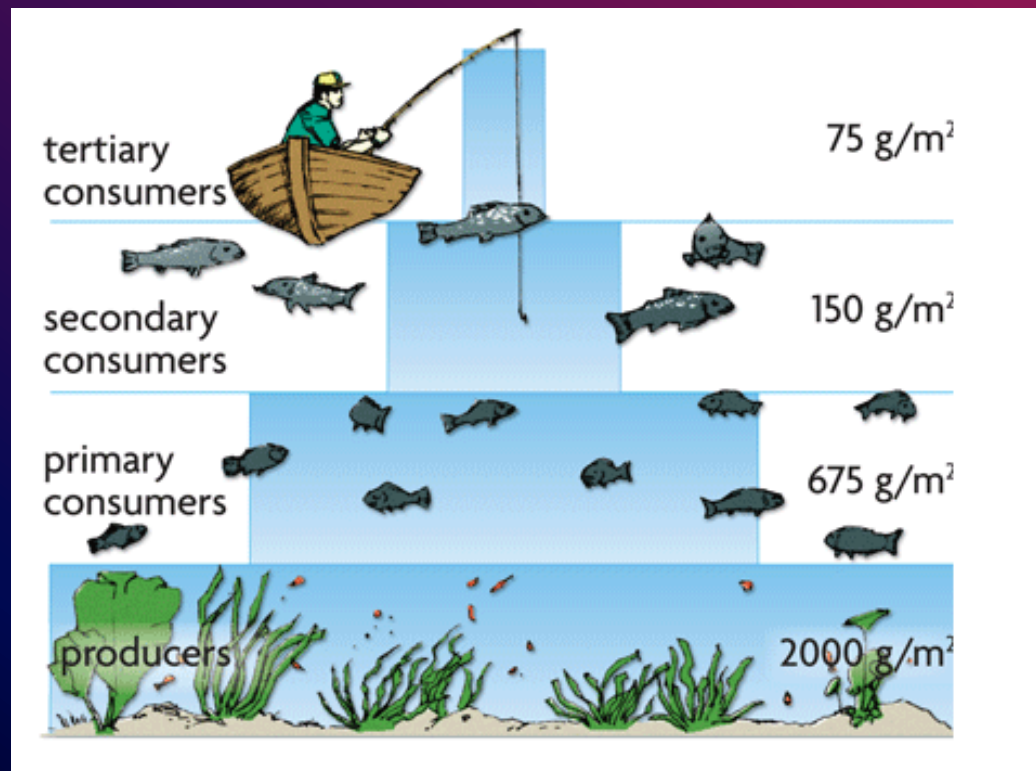
B. The 10% rule states that only 10% of the energy in one trophic level can only be transferred to the next trophic level.

Why is only 10% of the energy passed on when one organism eats another?

Where does the other 90% of the energy go?

C. Biomass pyramid, the total mass of living tissue within a given trophic level, most of which is at the base as producers.

What is this graph showing you?



D. **Numbers pyramid**, the number of individual organisms at each trophic level.

Why is there 5,000,000 producers for every 5 mountain lions?

