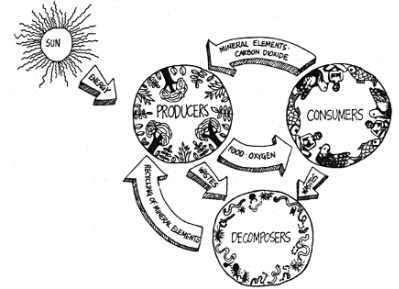


## Ecology Notes

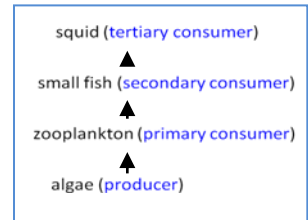
### I. Energy Flow

- Every organism \_\_\_\_\_.
- \_\_\_\_\_ is the \_\_\_\_\_ for life.
- Less than 1% of sunlight is used by organisms. Where does the rest of the sunlight go?
  
- \_\_\_\_\_: use of light energy to produce carbohydrates
- \_\_\_\_\_ make their own food, autotrophs are \_\_\_\_\_
  
- sunlight is not available to all organisms
- \_\_\_\_\_: use of chemical energy to produce carbohydrates
- most \_\_\_\_\_ are bacteria and algae
  
- Autotrophs: \_\_\_\_\_.
- Heterotrophs: \_\_\_\_\_.
- What is a \_\_\_\_\_? What is a \_\_\_\_\_? Are heterotrophs producers or consumers?
- consumers: Primary > secondary > tertiary > quaternary
  
- \_\_\_\_\_ are consumers
- \_\_\_\_\_ eat plants - \_\_\_\_\_ eat meat - \_\_\_\_\_ eat plants and meat
- insectivores eat \_\_\_\_\_
- \_\_\_\_\_ feed on remains - decomposers break down organic matter
- Where are \_\_\_\_\_ in a food chain?



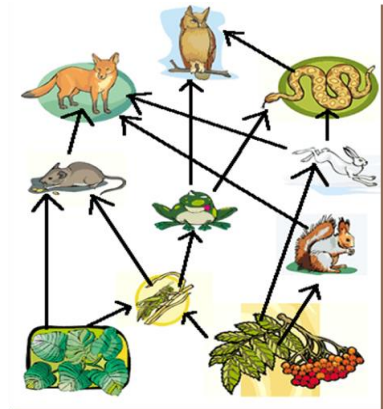
### II. Feeding Relationships

- \_\_\_\_\_ flows through an ecosystem in \_\_\_\_\_ (arrows) from the sun or inorganic compounds to producers to consumers.
- \_\_\_\_\_: diagram that shows \_\_\_\_\_
- \_\_\_\_\_: each step in a food chain. All food chains start with a \_\_\_\_\_.
- Remember: the \_\_\_\_\_ in an ecosystem.
- A food web is a network of \_\_\_\_\_ that connects multiple food chains.
- If one species is lost from a food web, all other species are affected.



### III. Community Interactions

- \_\_\_\_\_: when organisms try to use a resource in short supply at the same time and same place.
- \_\_\_\_\_: when one organism captures and eats another organism
- \_\_\_\_\_: any relationship in which two species live closely together



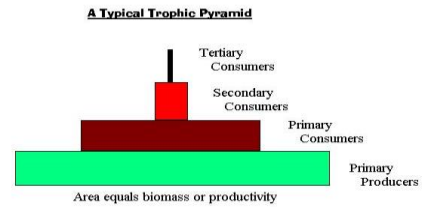
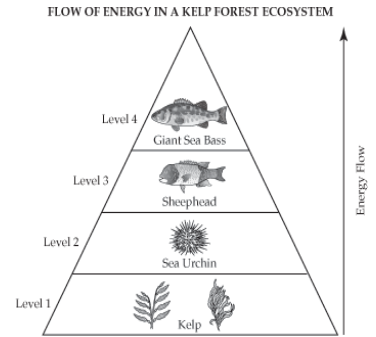
### IV. Symbiosis

- \_\_\_\_\_: when \_\_\_\_\_ from the interaction.

- Example, the sea anemone is cleaned by the clown fish, who in turn is protected by the anemone's stinging tentacles.
- \_\_\_\_\_: when \_\_\_\_\_ from the interaction and the \_\_\_\_\_ species is \_\_\_\_\_
  - Example, an epiphyte, growing on another plant only for support.
- \_\_\_\_\_: interaction in which \_\_\_\_\_ and the other organism \_\_\_\_\_
  - Example, a mosquito feeding on a host take blood and can transmit disease. Does the host die as a result?

V. Ecological Pyramids

- each \_\_\_\_\_ represents a different group of organisms in a food chain
- about \_\_\_\_\_ of the energy available at each trophic level is \_\_\_\_\_ to organisms at the next trophic level
- energy is \_\_\_\_\_ as heat and in life processes
- Biomass Pyramids
  - biomass is the total \_\_\_\_\_
  - expressed as \_\_\_\_\_ of organic matter \_\_\_\_\_
  - biomass pyramid represents the \_\_\_\_\_ at each trophic level, normally the greatest biomass is at the base
- Numbers Pyramid
  - based on the \_\_\_\_\_
  - some number pyramids look like biomass & energy pyramids, some do not



VI. Laws of Ecology

1. \_\_\_\_\_.
2. \_\_\_\_\_.
3. \_\_\_\_\_.
4. \_\_\_\_\_.