

Ecosystems Notes

Def: **a community of living organisms interacting with one another and with the nonliving components in their habitat.**

Trophic levels: **feeding connections among living organisms in an ecosystem.**

3 levels

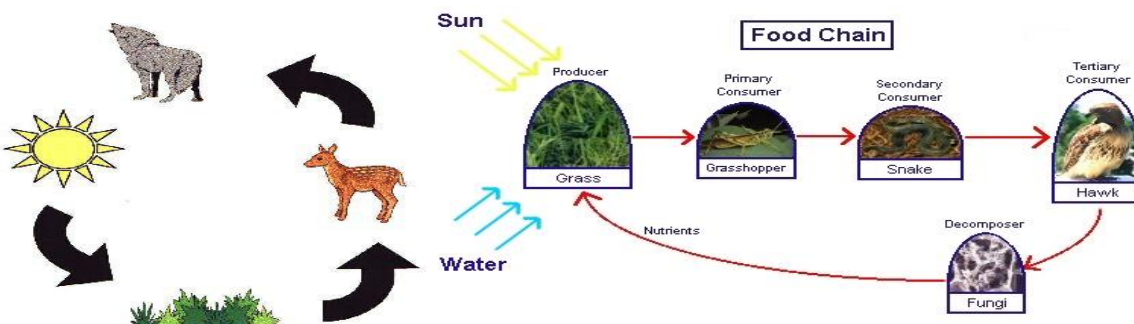
Producers	Consumers	Decomposers
<ul style="list-style-type: none">- Produce their own food through photosynthesis.- They need sun for the process to occur.- They introduce energy into an ecosystem.- Phytoplankton and algae in the water <p>ex. trees, algae, grass</p>	<ul style="list-style-type: none">- Obtain their energy by eating other living things <ol style="list-style-type: none">1. primary or first order consumer: feed on producers<ul style="list-style-type: none">- must be a herbivores (omnivore)2. secondary or second order consumer (and above ex 3rd)<ul style="list-style-type: none">- are carnivores (omnivores) which kill their food- insectivores eat insects- tertiary consumer: eats 2nd order consumer- top order consumer: has no predator	<ul style="list-style-type: none">- Feed on detritus (dead organic matter)- connected to all trophic levels (everything dies)- they are an essential component to completely break down an organism- helps keep soil and environment healthy- worms, bacteria, mushrooms and insects

Food pyramids: **Representing predator relationships, in which various forms of**

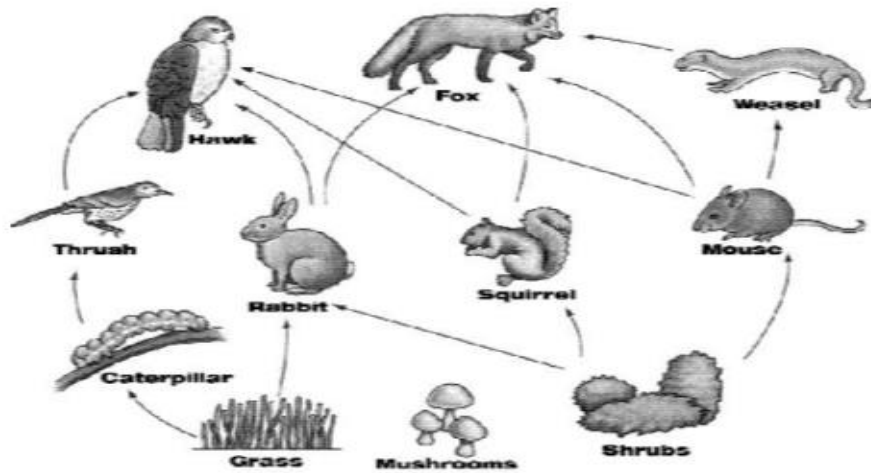
life are shown on different levels, with each level preying on the one below it.



Food Chains: A trophic relationship with a straight feeding process. Decomposers are part of each trophic level.



Food Webs: Trophic levels with multiple feeding relationships. Many food chains can be made from it.



Leave this blank, we will do the questions together

- 1) Identify a: producer primary consumer secondary consumer tertiary consumer
- 2) What would happen to the # hawks if grass disappeared?
- 3) What would happen to # rabbits if grass disappeared?
- 4) What would happen if the hawks disappeared?
- 5) What would happen if the mouse disappeared?
- 6) What often occurs when a predator or prey is taken out of a food web?
- 7) Would you expect to find more weasels or foxes?

8) How would you add the mushrooms into the web?

9) Make a food chain to the second order consumer.

10) Make a food chain to the third order consumer.

Chemical recycling: **Decomposers make inorganic matter available by breaking down organic matter.**



Material and energy flow: **Energy flows in an ecosystem**

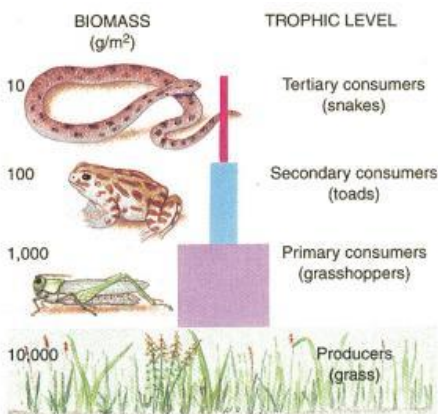
Energy is **NOT** recycled, from 1 trophic level to the next an animal will only gain about 10% of its prey. 90% of the energy gained will be lost

through hunting, killing, eating, digesting etc.

- **New energy from the sun is required.**

Primary productivity amount of NEW biomass created (by producers). Depends on light, water nutrients and temperature.

Biomass: the total mass of organic matter in an ecosystem (mass of all living things)



Disturbances

Def: **an event that damages an ecosystem.**

Natural disturbances: **Events triggered by the environment.**

Ex- storms, droughts, forest fires

Human disturbance: **Disturbances triggered by humans and their activities. Ex: oil spill**

Ecological succession : **All the steps necessary for an ecosystem to be balanced again after a disturbance has occurred.**

