

Cycles & Processes in Nature:

Ecology: the study of the interactions & relationships between living things and their environment.

Ecosystem: all of the biotic & abiotic factors that interact together in a particular area/region.

Biotic vs. Abiotic Factors:

- Biotic: living things in an ecosystem (“bio” means life).
 - ex: the bacteria, protists, fungi, plants, and animals that all have roles which aid in others’ survival.
- Abiotic: non-living things which are vital to an ecosystem.
 - ex: soil, water, air, temperature, sunlight

Energy Roles:

Every living thing fills a role in an ecosystem.

Producers: capture energy from sun through photosynthesis.

ex: plants, autotrophic bacteria and protists.

Consumers: heterotrophs (eat other living things)

a) **Herbivores**—eat only plants (caterpillar, deer, rabbit)

b) **Carnivores**—eat only animals (spiders, lion, wolf)

c) **Omnivores**—eat both plants & animals (crow, bear)

Decomposers: break down wastes and dead organisms, return nutrients to the soil.

ex: fungi, bacteria, some protists

Energy Flow Through the Environment:

The sun is the primary/essential energy source for all life.



Plants/Autotrophic bacteria & protists (producers).



Animals eat the plants (herbivores & omnivores).

* first level consumers



Animals eat those animals (carnivores & omnivores).

* 2nd level consumers



Animals eat those animals—3rd level consumers.

<u>Biotic Factor</u>	<u>Where Get Energy?</u>	<u>Energy Role</u>
Grass	Sun	Producer
Frog	Insects, snails, slugs, worms, spiders	Consumer (carnivore)
Spider	Insects	Consumer (carnivore)
Grasshopper	Plants (leaves)	Consumer (herbivore)

Food Chains

Draw the arrows in the right directions and complete the big food chain.



Fish



Seal



Algae



Shark



Frog



Grasshopper



Snake



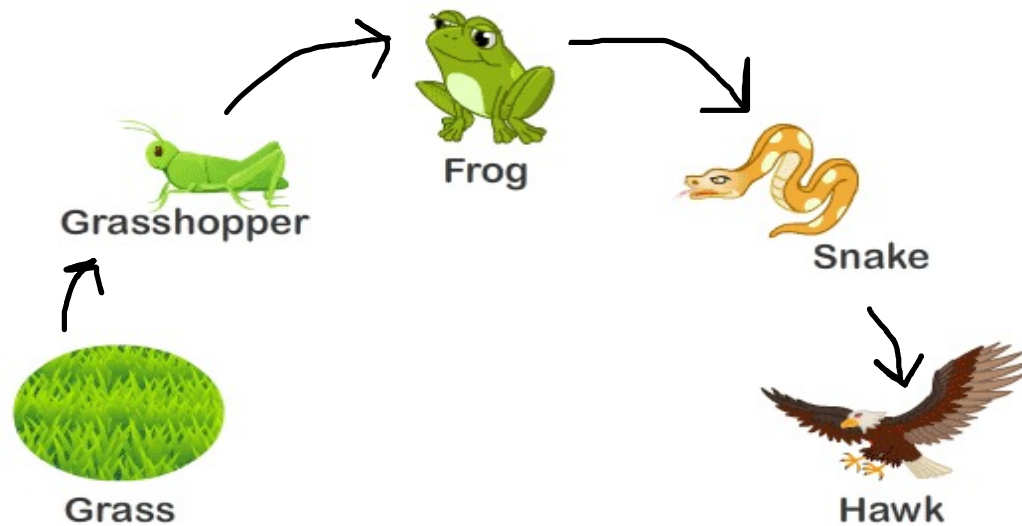
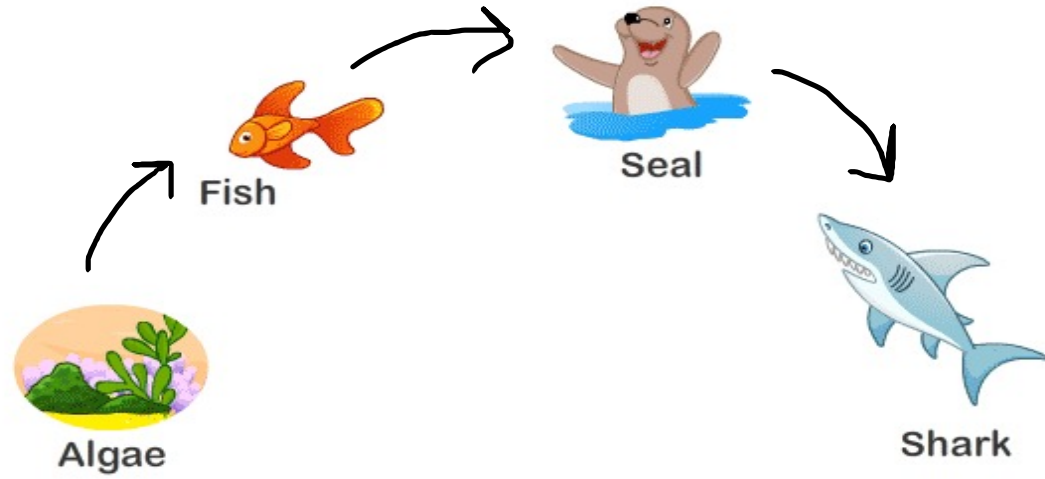
Grass



Hawk

Food Chains

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Food Web

