Animals- Living Systems SOL 4.5

structural adaptation -

adaptations of the way living things are made that help them meet their life needs

protective coloration - a color pattern on an animal that helps keep the animal from being seen by predators ;a chameleon's ability to change colors when danger is near

physical adaptations of body parts
~webbed feet of a goose
~long pointed nose and mouth on an anteater
~birds have wings and lightweight bodies that allow them to fly
~a long pointed beak on a hummingbird
~plants with vines can climb up trees to get more sunlight
~desert plants have waxy coatings and roots that are shallow and widespread to help them get and hang on to water

behavioral adaptation - behaviors that enable living things to meet life needs in their surroundings

~a blow fish puffs up so a predator can't swallow it
~good sight and hearing allows animals to run from predators and escape capture
*[The good sight and hearing is structural adaptation, but the running is a behavioral adaptation.]
~nocturnal animals in the desert are able to escape the worst heat of the day
~fish swimming in schools look larger to predators and swimming closely together allows them to warn each other of danger

migration - movement by particular types of animals from one location to another when the seasons change enables animals to find food and avoid harsh winter weather

hibernate - a dormant state, similar to a deep sleep, spending the winter in a condition where all the functions of the body greatly slow down allows animals to survive months when food is scarce and the weather is harsh

living in groups-

young mammals and birds are dependent on parents

Most animals that live in a group are organized so that the youngest are the most protected. They learn behaviors from the adults to help them survive. Baboons travel in a troop with the youngest members in the center, where they can be protected.

Adult birds care for their eggs by sitting on them and turning them. After they hatch, the adults keep the babies warm and provide food until their young are old enough to fly and find food.

Insects

Insects that have a hard outer covering have an **exoskeleton**-

metamorphosis - a process in which some insects undergo a change growing from an egg to an adult in stages

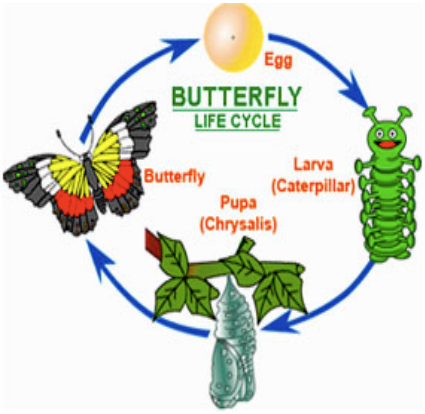
sequence of stages in the life cycle of an insect [complete metamorphosis]

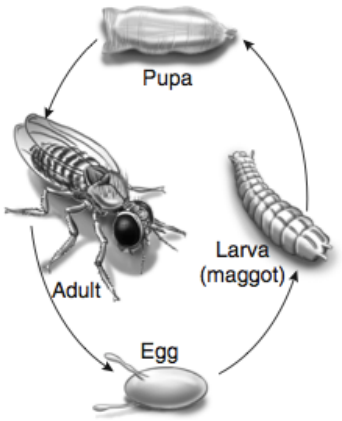
egg

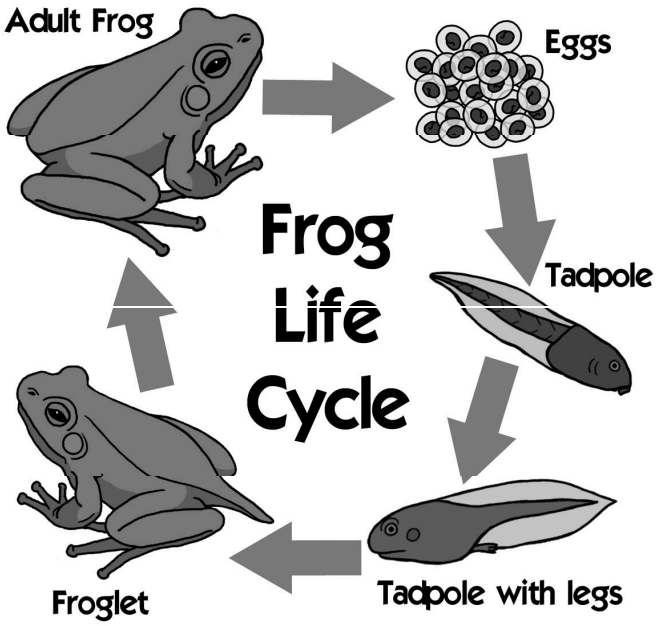
larva- constant state of growing due to eating and more eating

pupa- organism is in a cocoon and goes through structural changes

adult- main job of the adult insect is to lay eggs







Life Cycle of a Frog

ecosystem- a community and its nonliving environment

community- the living part of an ecosystem

population- all of one plant or of one animal

habitat- a place in which plants and animals live and are provided with food, water, shelter, and space
[to the blue crab, it is the open bay of the Chesapeake Bay region]
Humans' destruction of habitats is the biggest cause for endangering the greatest number of land animal species.

niche - the job or function that an organism performs in the food web of that community

Food Webs
Living Things can be classified as producers or consumers:

producers - living organisms that use sunlight to make sugar [green plants]

consumers - these organisms cannot make their own food and must consume other organisms to get energy

carnivores - living organisms that eats only animals

herbivores - a consumer that eats only producers [plants]

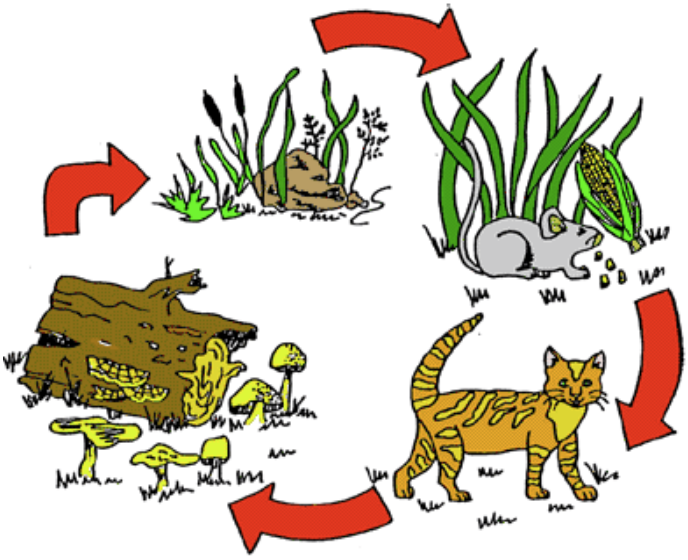
omnivores - living organisms that consume both plants and animals

decomposers - organisms, such as bacteria, that break down dead plants and animals

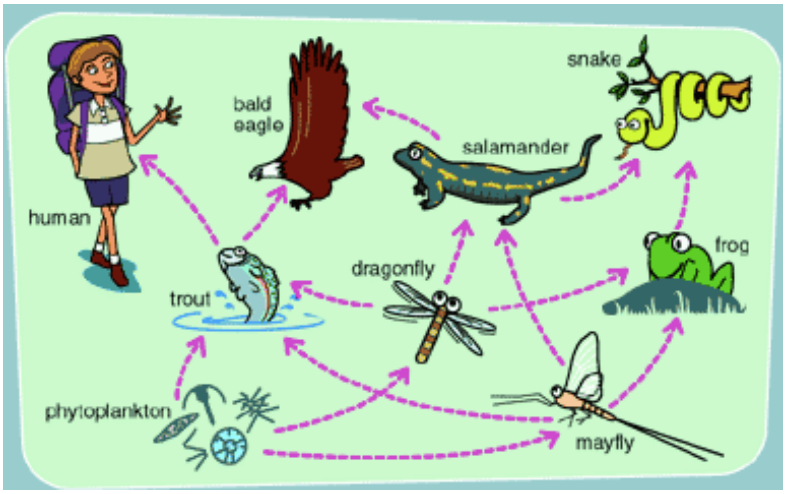
The energy flow through food chains and webs starts with the sun and producers.

sun-producers-herbivores-carnivores-decomposers

Food Chain-the path of energy from the sun, to producer, to consumer.



Food Web- the flow of energy from the sun, through producers, consumers, and decomposers



Influence of Human Activity on Ecosystems
Humans can have a major impact on ecosystems. Impacts can be positive or negative:

Negative Impacts:
-Pollution is when harmful substances are added to Earth's water, air, or land.
-Water pollution can make water too dirty to use. It can make living things sick which could end up killing the plants and animals living in it.
-Air pollution can come from forest fires, cars, or factories. They release acids that mix with water in the air and can fall as acid rain. Smog hangs in the air like a cloud and makes it hard to breathe.
-Land pollution is caused by trash being thrown to the ground. This can harm plants and animals. It can make the land ugly.

Positive Impacts:
-Laws to control air and water pollution
-Use resources wisely
-Public parks and forests
-Laws to protect endangered species

Natural Influences on Ecosystems
Drought is a long period of time with little or no precipitation, such as rain. Plants will die and the consumers that depend on them will also die.

Diseases such as Dutch Elm Disease can harm habitats because the elm trees die.

Fire can affect an animal's food supply and habitat.

Overpopulation is when an ecosystem has too many of one kind of living thing. The animals run out of space, food, and water.