

3 Arthropods

What You'll Learn:

Determine the characteristics that are used to classify arthropods.

Explain how the structures of the exoskeleton relates to its function.

Distinguish between complete and incomplete metamorphosis.

Characteristics of Arthropods

*Bilateral symmetry, segmented bodies, appendages, exoskeleton, body cavity, digestive system with two openings, and nervous system.

*Most have separate sexes and reproduce sexually



Segmented Bodies

*Bodies are divided into segments



Exoskeletons

*It covers, supports, and protects

*Has a waxy layer that prevents water loss.

*Provides a place for muscles to attach

*It can't grow so they must molt.



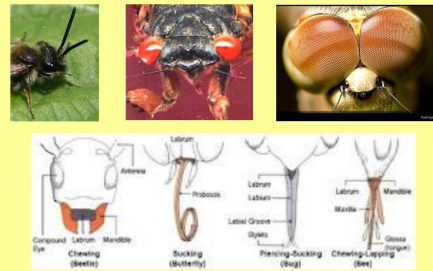
Insects

*Three body segments (head, thorax, abdomen) and three pairs of legs.



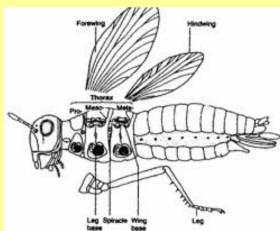
Head

*A pair of antennae (touch and smell), eyes (simple see light and dark, compound see colors and movement), and a mouth.



Thorax

*Legs and wings attach to it



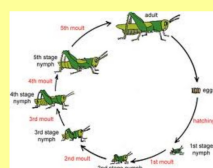
Abdomen

*Reproductive structures, open circulatory system, and spiracles for exchanging gases



Egg to Adult

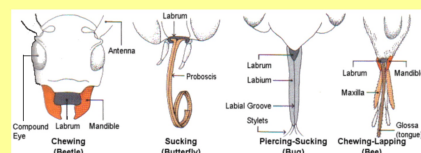
*Incomplete metamorphosis (egg, nymph, adult) the young look like the adult.



*Complete metamorphosis (egg, larvae, pupa, adult) the young undergo a complete change.

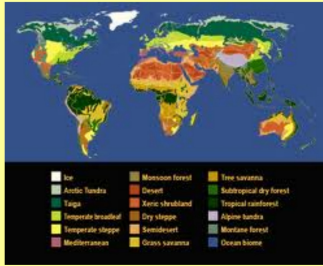
Obtaining Food

*Insect mouths are adapted for the food that they eat.



Insect Success

*Genetic traits can change quickly, live in a wide range of environments, and camouflage.



Arachnids

*Two body segments (cephalothorax and abdomen) and four pairs of legs.



Centipedes and Millipedes

*centipedes many segments with one pair of legs per segment and are predators



*millipedes many segments with two pairs of legs per segment and herbivores

Crustaceans

*Most live in water, have antennae, and mandibles



Value of Arthropods

*Food source, predators of harmful animals, pollinate plants

*Some are pests and carry disease

Controlling Insects

*insecticides kill good/bad insects, and are toxic to other animals

