Arthropoda

Most diverse Phylum

The total _____ of arthropod species exceeds the number of other animal phylum _____

900,000 have been recorded

Probably the same number are not found yet

There are more _____ species that there are of all _____

Arthropods means “_____” “_____”

Like annelids have a coelom and _____

Appendages- structures that _____ from the arthropod's body wall

- Have joints and bend
- _____ for walking
- Antennae for sensing _____
- Mouthparts

Majority are small

Size range from 80 micrometers to 3.6 meters

http://www.afsc.noaa.gov/race/media/photo_gallery/invert_files/Red_king_crab.htm

http://biology.arizona.edu/sciconn/lessons2/Geiger/Picpages/parasitic_mites_and_blue_mold.htm

Arthropods are divided into two groups

Subphylum Uriramia- with _____

Subphylum Chelicerata or Subphylum Crustacea with _____ and pinchers

Characteristics of Arthropods

- _____ Appendages
- Segmentation
- Distinct _____, often with compound eyes
- Exoskeleton
- Tracheae and spiracles
- Open _____ system
- Malpighian tubules
- _____

Segmentation

Sometimes only _____ during the larval _____

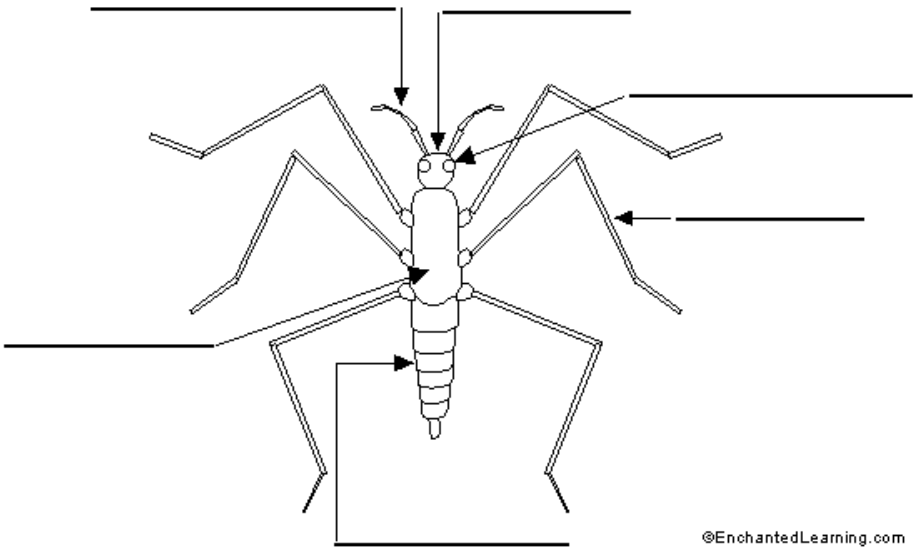
Example caterpillar vs butterfly

http://www.foagm.org/Album_02-07/caterpillar%20(ID_).jpg

Adults have three distinct regions

Head Thorax Abdomen

Some have a cephalothorax- head and thorax fused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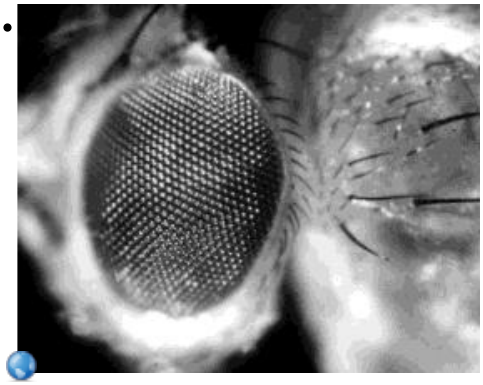
Compound eye- an eye made of thousands of individual visual units each with its own lens and retina. The brain received images from each and pieces them together.



http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/C/CompoundEye.html

Image is fuzzy but motion is seen quicker.
Why is this important?

Some have single eyes, some have compound eyes, and some have both

Exoskeleton

The shell is _____ and flexible where the _____ are

Exoskeleton protects an arthropods from_____ and helps prevent _____ loss

The skeleton can not grow larger so they need to shed and discard their exoskeleton (_____)

Triggered by a release of _____.

The new skeleton is beneath and still soft.

The new skeleton then hardens.

Respiration

Tracheae- a network of fine _____

Air enters through the spiracles and passes into the tracheae delivering _____ to the body

Excretion

Malpighian tubules- slender fingerlike extensions from the arthropod's ____ that are bathed by the _____that surrounds them

Subphylum Uniramia

Mostly terrestrial arthropods with _____ mouth parts

_____

Insecta (insects)

Diplopoda (millipedes)

Chilopoda (centipedes)

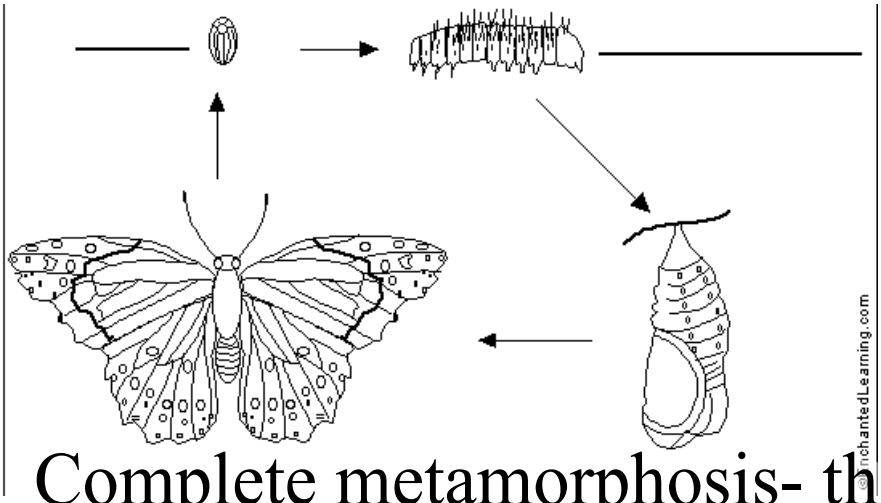
Insect Body Plan
Head: has the specialized _____,
one pair of antennae, compound _____

Thorax: three fused segments usually with _____ pairs of jointed legs and _____

Abdomen: 9-11 segments

Metamorphosis: dramatic physical change

_____ metamorphosis-
Egg hatches into a juvenile (nymph) a small _____ adult



Complete metamorphosis- the wingless wormlike _____ encloses itself in a protective capsule (chrysalis) passes through a pupa stage and changes to an _____

Flight

An insect's wing develop from saclike outgrowths of the _____ wall of the _____.

The veins in the wings carry air not _____.

In most insects only _____ pair of wings are used for flight.

Social Insects
Order Hymenoptera and Order Isoptera have evolved elaborate _____ systems
There are marked division of labor with specific _____
Caste- role of an _____ in a colony.
Many times most _____ of the colony are sterile.

Insect Relatives

Centipedes have _____ pair of legs per segment and can have up to 173 segments. They are also

_____

Millipedes have two sets of legs per segments and can have from 11 to more than 100 segments. They are also

_____