

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 Urinaria- 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

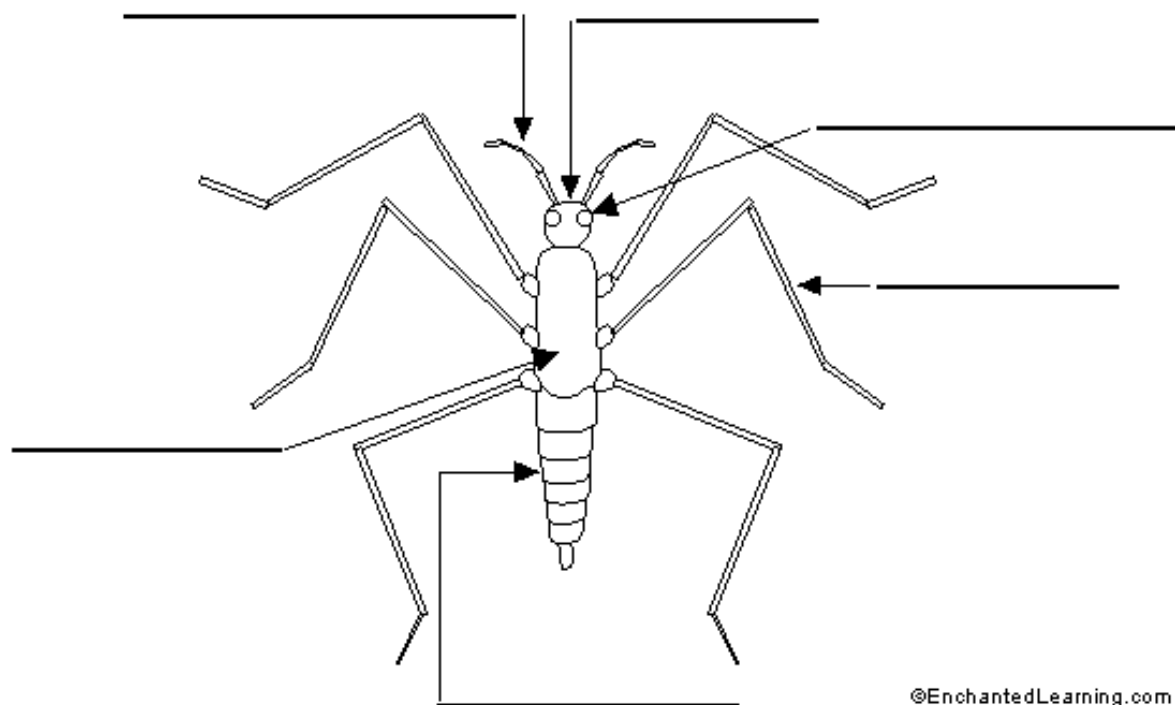


[http://www.foagm.org/Album_02-07/caterpillar%20\(ID_\).jpg](http://www.foagm.org/Album_02-07/caterpillar%20(ID_).jpg)

Adults have three distinct regions

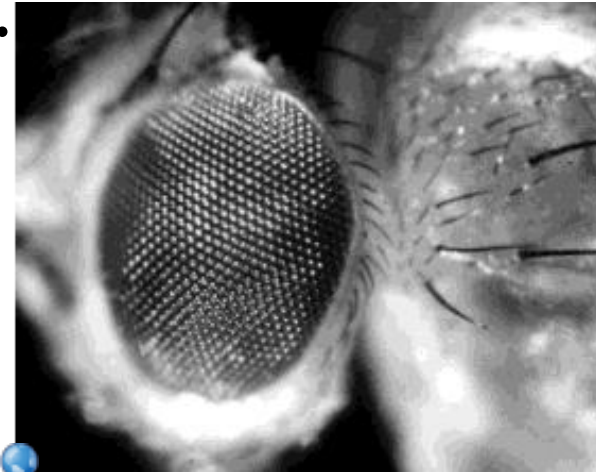
Head Thorax Abdomen

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](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

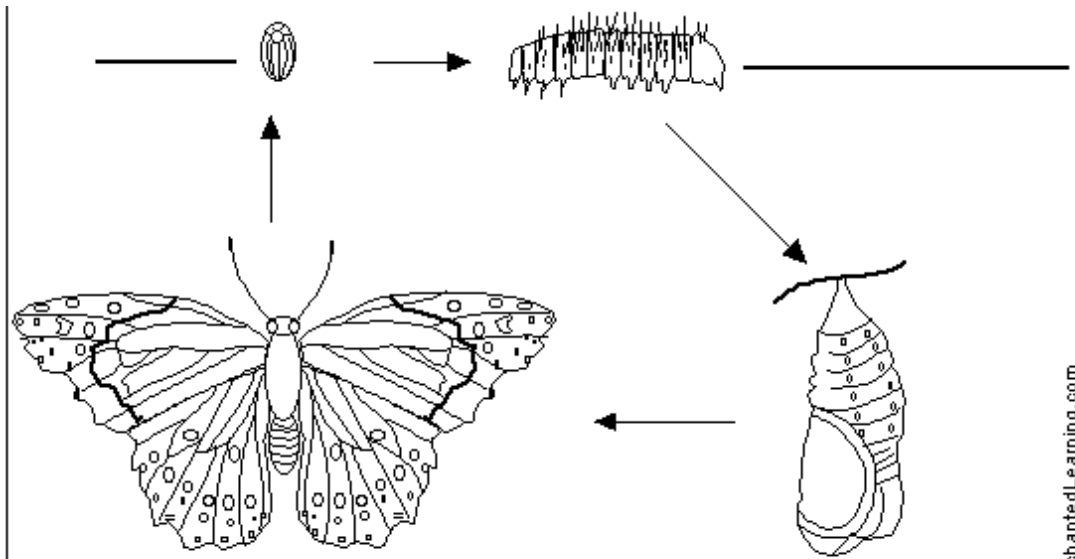
Head: has the specialized _____,
one pair of antennae, compound _____

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 segment and can have from 11 to more than 100 segments. They are also
