

PHYLUM - ARTHROPODS

(The Jointed-legged Animals)

What do you already know about them?

Main Characteristics (pp. 41-42):

(Mr. Faber's additions to that list)

*Click here for a
short video on
arthropods*

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(The Jointed-legged Animals)

What do you already know about them?

Main Characteristics (pp. 41-42):

- segments or sections (evolve from annelids?)
- exoskeleton (made of chitin)
 - ↳ molt to grow!
 - many go through metamorphosis
- great sense organs (compound eyes, simple eyes, antennae, hairs)
- good nervous system
 - well developed brain
- some can fly!!
- live everywhere (terrestrial, marine, fresh H₂O, air, amphibious)
- get oxygen in several ways
 - gills
 - book lungs (spiders)
 - spiracles
- limited in size
- important food

(Mr. Faber's additions to that list)

Click here for a short video on arthropods

FIVE MAIN CLASSES OF ARTHROPODS:

1. Millipedes (Diplopoda)

2. Centipedes (Chilopoda)

3. Arachnids

4. Crustaceans

5. Insects

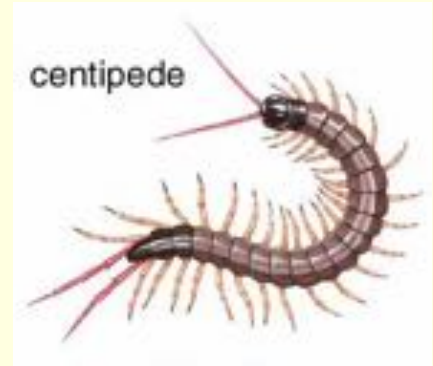
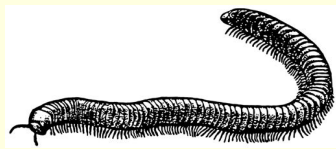
Main characteristics of arthropods:

- jointed legs ("bendy")
- exoskeleton made of CHITIN
- segmented bodies with specialized parts
- head with good sense organs (eyes, antennae) and a brain
- largest phylum BY FAR (75% of all animal species)
- MOLT their exoskeletons to grow
- marine, fresh water, terrestrial, even amphibious
- get oxygen through GILLS (ex. crustaceans), BOOK LUNGS (ex. arachnids), SPIRACLES (ex. insects)
- limited in size
- some can fly really well
- important food source for many other animals

VERY SUCCESSFUL PHYLUM!!!

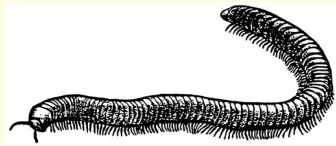
**MILLIPEDES
(diplopoda)**

**CENTIPEDES
(chilopoda)**



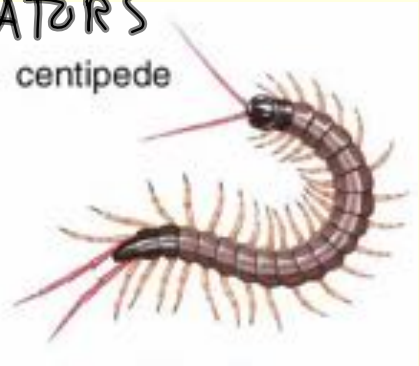
1000 **MILLIPEDES**
(diplopoda)

- two pairs (4) legs per segment
- more segments
- shorter legs
- legs underneath
- round body
- short antennae (one pair)
- slow
- decomposers



100 **CENTIPEDES**
(chilopoda)

- one pair (2) legs per segment
- fewer segments
- longer legs
- legs to sides
- flat body
- long antennae (one pair)
- faster
- poisonous, biting mouths
- PREDATORS



ARACHNIDS

Main Characteristics:

Ex.



[Click for short video \(4:03\)](#)

ARACHNIDS

Main Characteristics:

- 8 legs
- up to 8 simple eyes
- no antennae
- mostly predators
- two main body sections

1. CEPHALO-THORAX - head-thorax

2. ABDOMEN - guts

• chelicera - "fangs" with venom

• spinnerets make silk

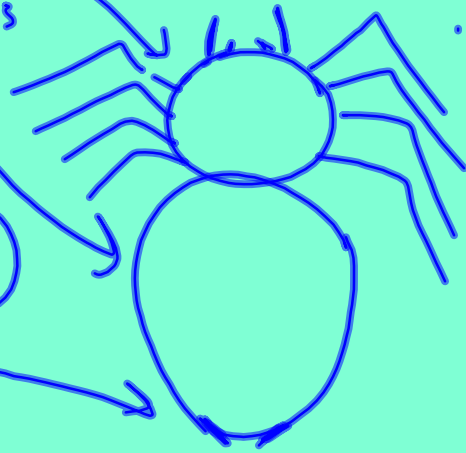
- silk uses
- webs
 - dragline
 - ballooning
 - wrap up prey
 - egg cases
 - trapdoors
 - funnel webs

Ex.



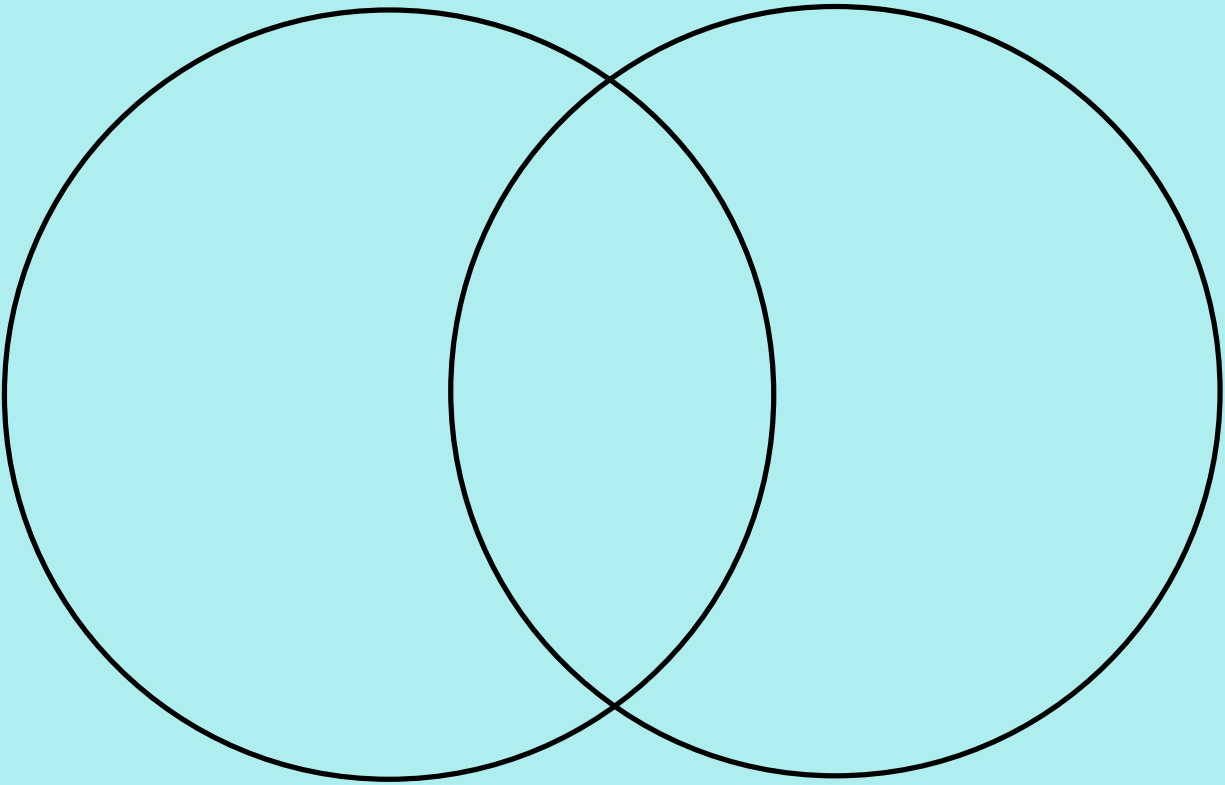
Click for short video (4:03)

- spiders
- scorpions
- ticks
- mites



CRUSTACEANS

INSECTS

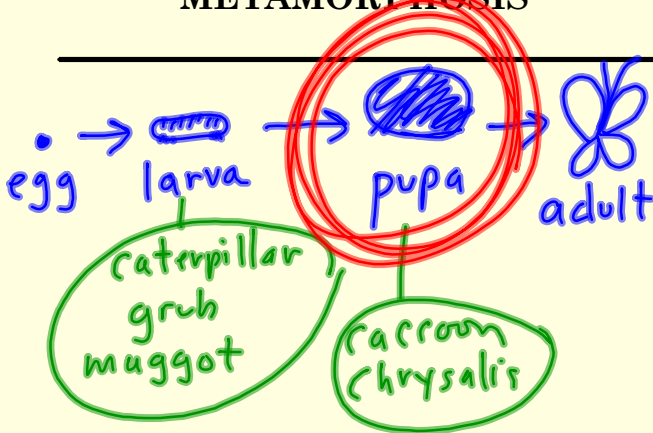


**COMPLETE
METAMORPHOSIS**

**INCOMPLETE
METAMORPHOSIS**

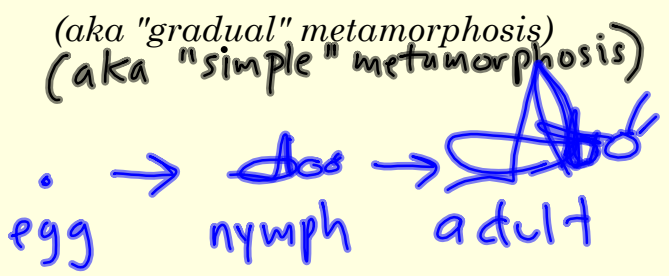
(aka "gradual" metamorphosis)
(aka "simple" metamorphosis)

COMPLETE METAMORPHOSIS

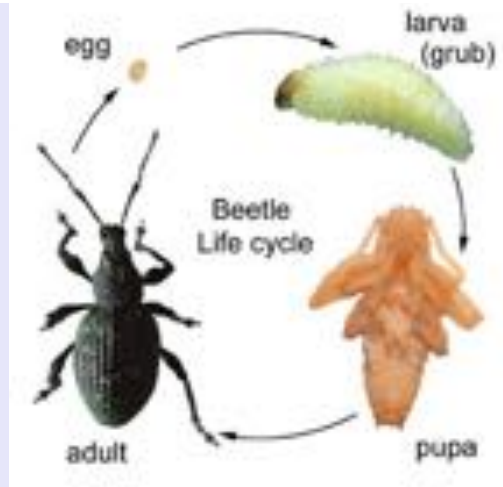


- ex) butterflies/moths
beetles
flies
bees, wasps
ants

INCOMPLETE METAMORPHOSIS



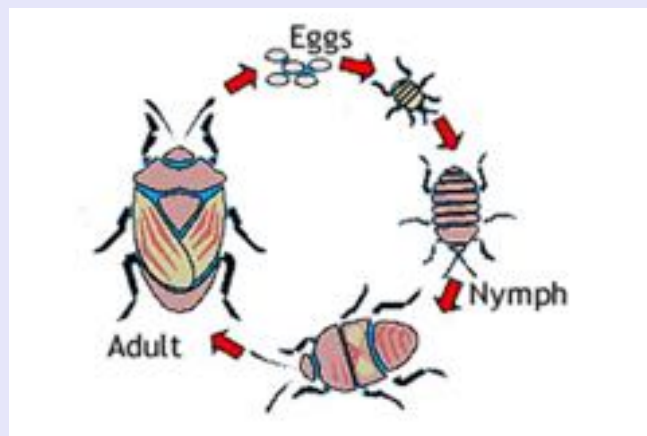
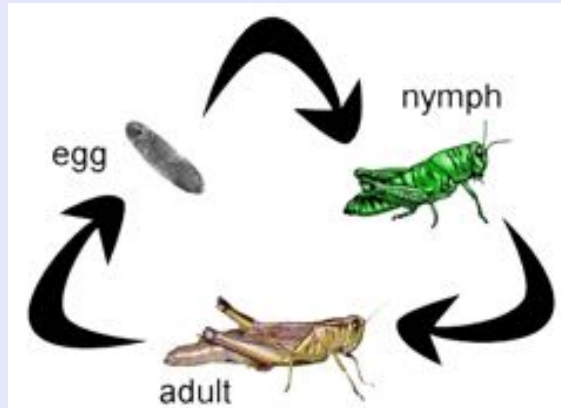
- ex) primitive insects { grasshoppers
crickets
roaches
katydid
cicadas



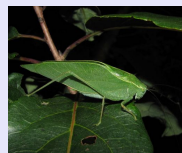
Examples of **Complete Metamorphosis** in Insects



Others



Examples of **Incomplete Metamorphosis** in Insects



Others