

Phylum Echinodermata

superstars of the ocean

Pg.357-365

Echinoderm

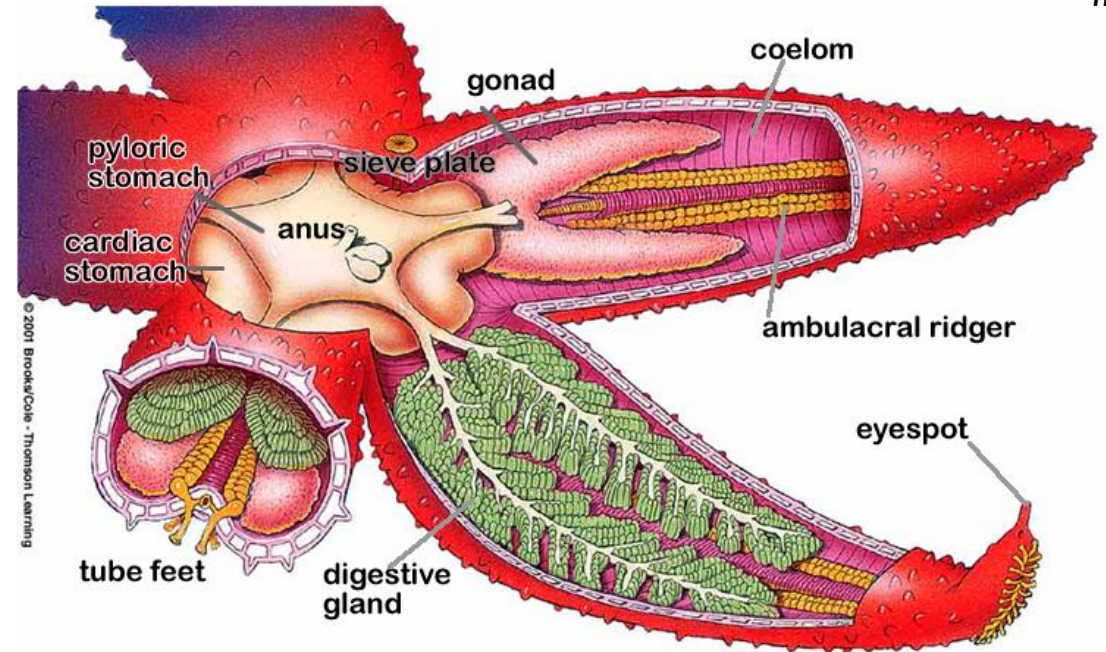
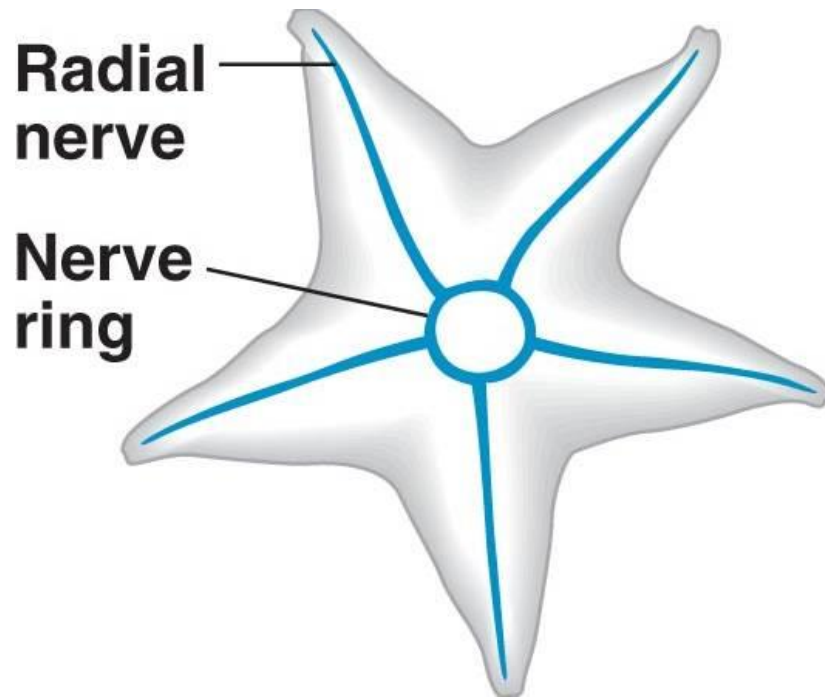
#6, chart

- “spiny skinned”
- Endoskeleton
- All spines covered by outer skin of animal
- Adults= radial symmetry
- Larvae= bilateral symmetry



Nerve Ring

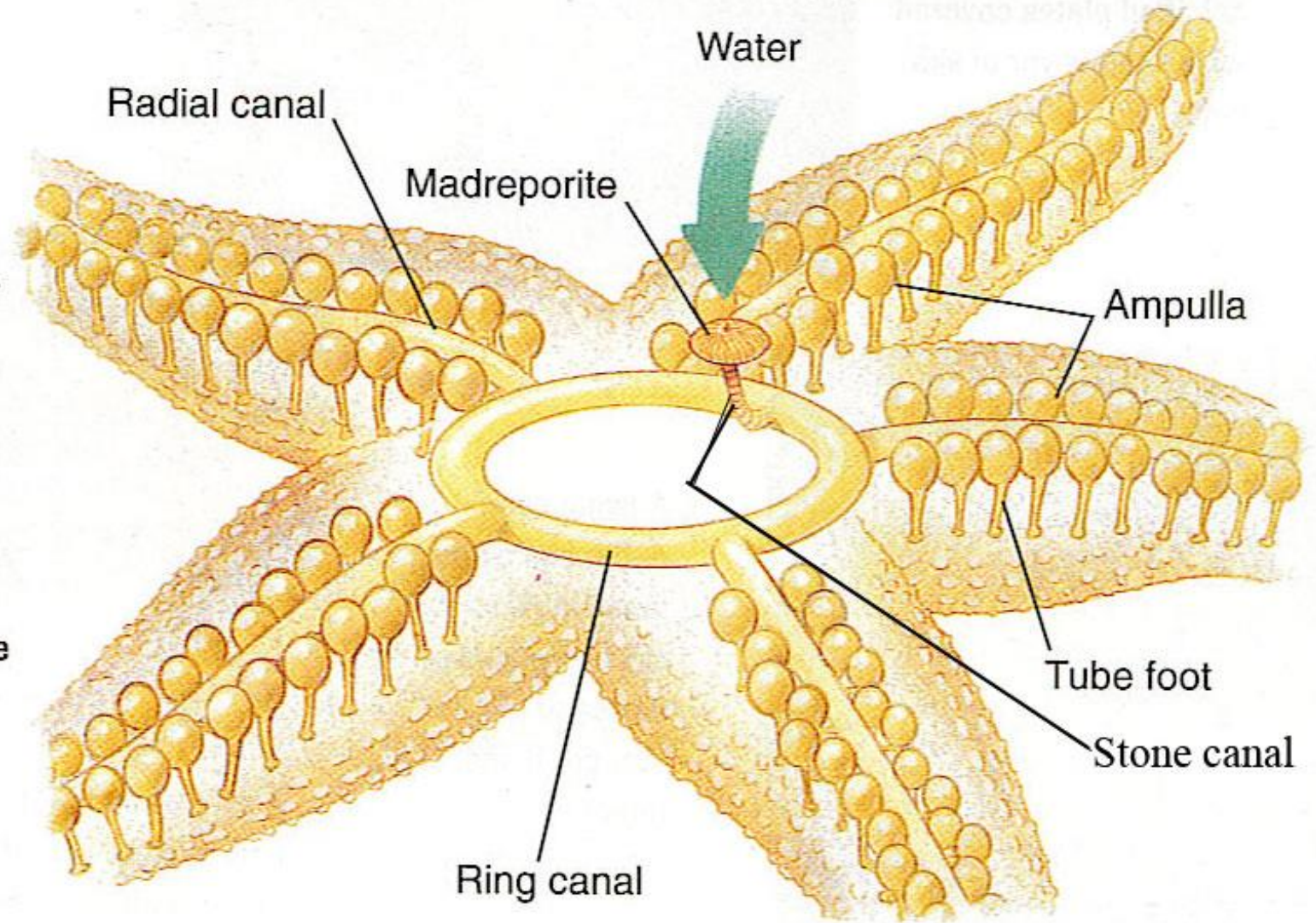
- Nervous system
- Radial nerve goes along arms
- Eye at tip= senses light



Water Vascular System

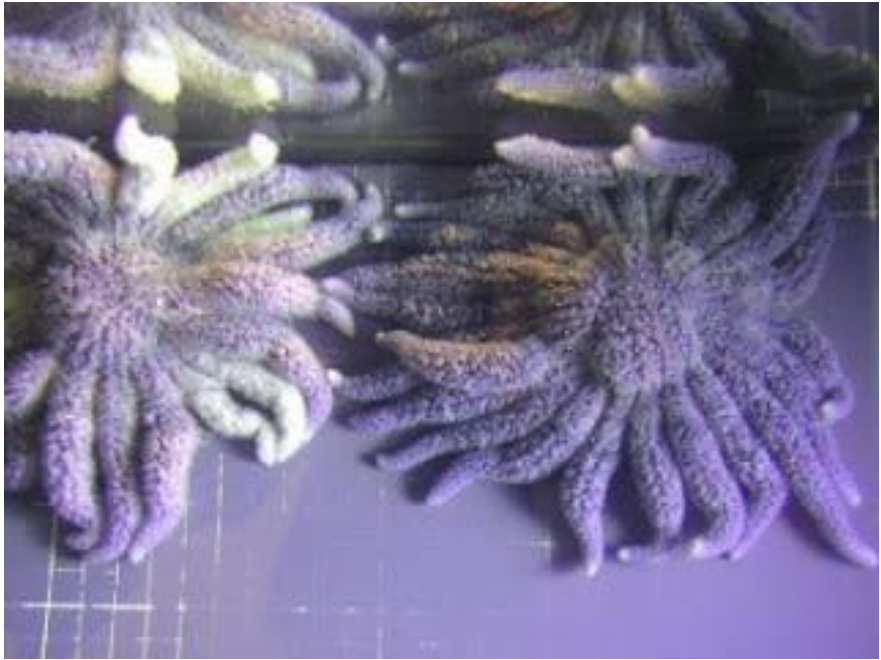
- Pumps water to help move, eat, breathe

▶ The starfish's water vascular system provides the water pressure that operates the animal's tube feet. From the madreporite, water moves into the ring canal, then into the rays through radial canals, and finally to the tube feet. The canals are like a network of water pipes attached to the tube feet. Water also exits the body through the madreporite.





Sea Stars



Sea Urchins

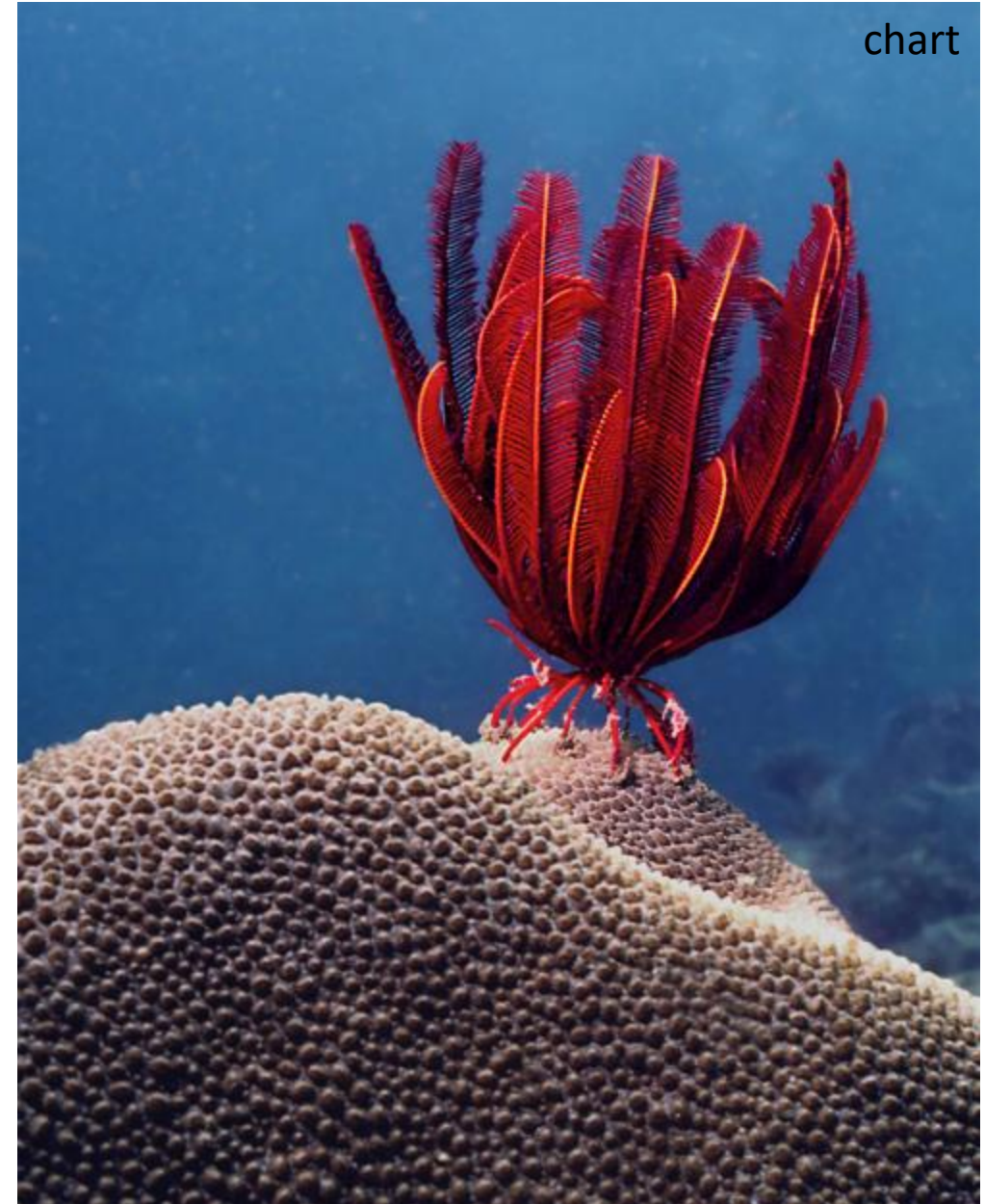
chart



Sea Lilies



Video: [watch it move](#)
[watch it eat](#)





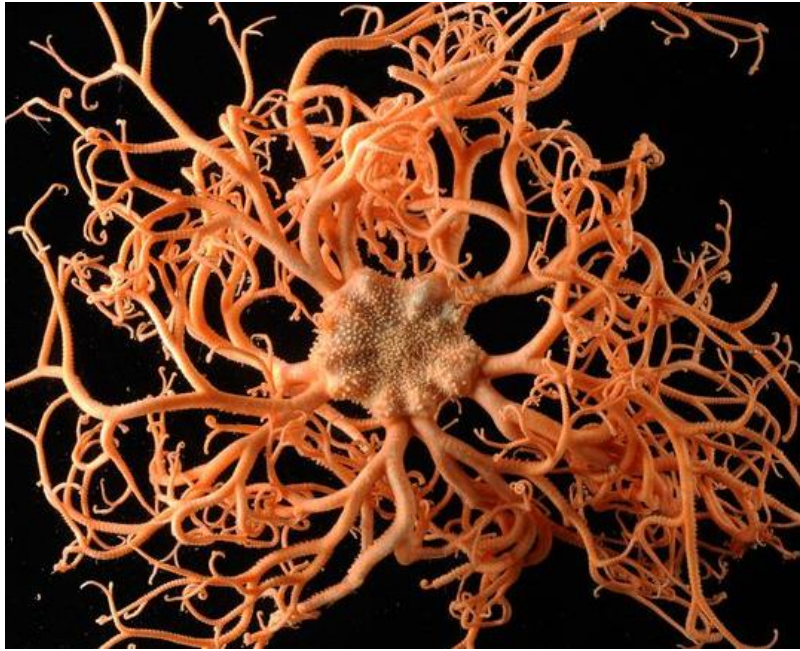
Sea Cucumbers

chart

Video: [gutsy defense](#)

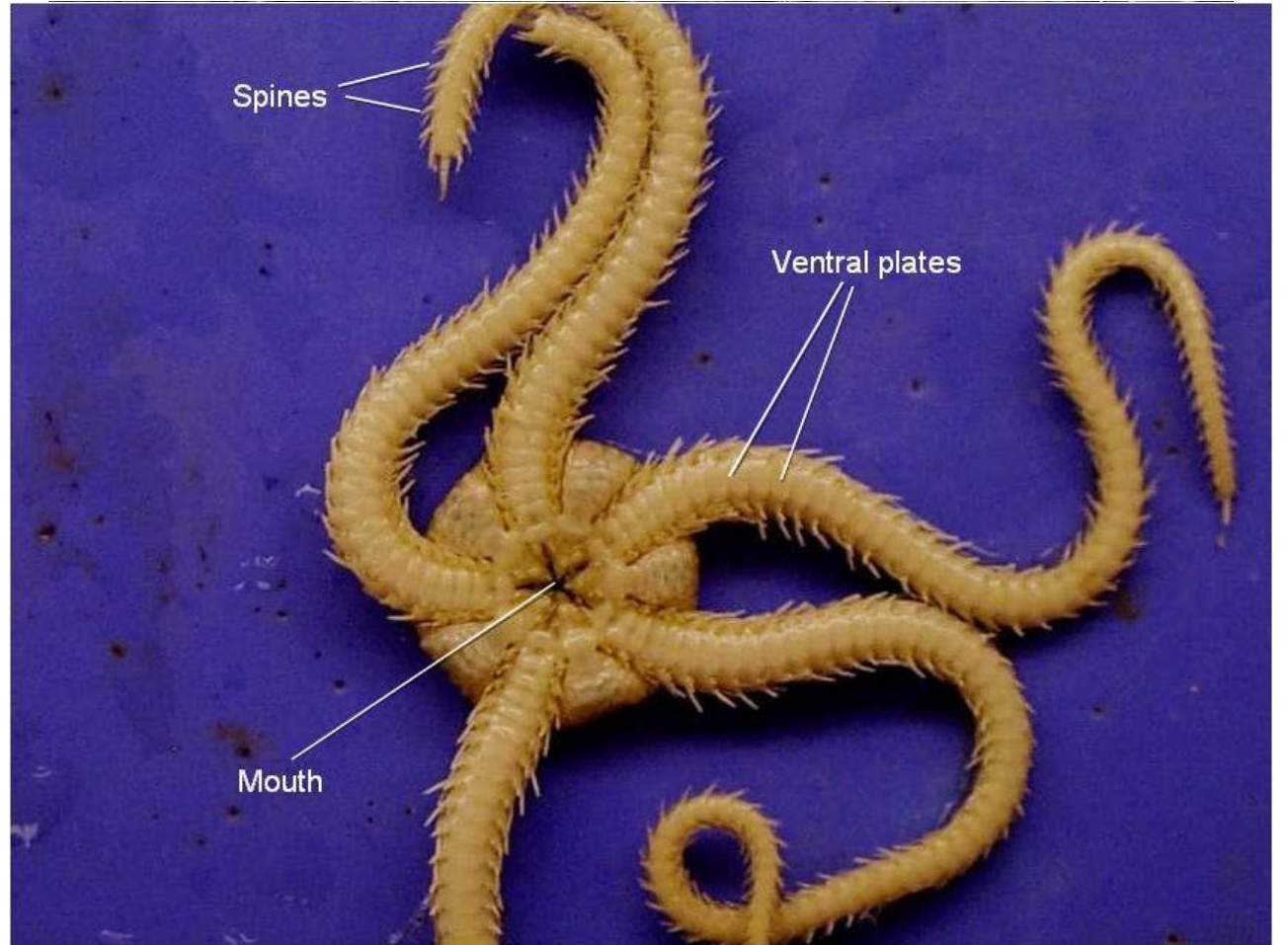


Zubi 05

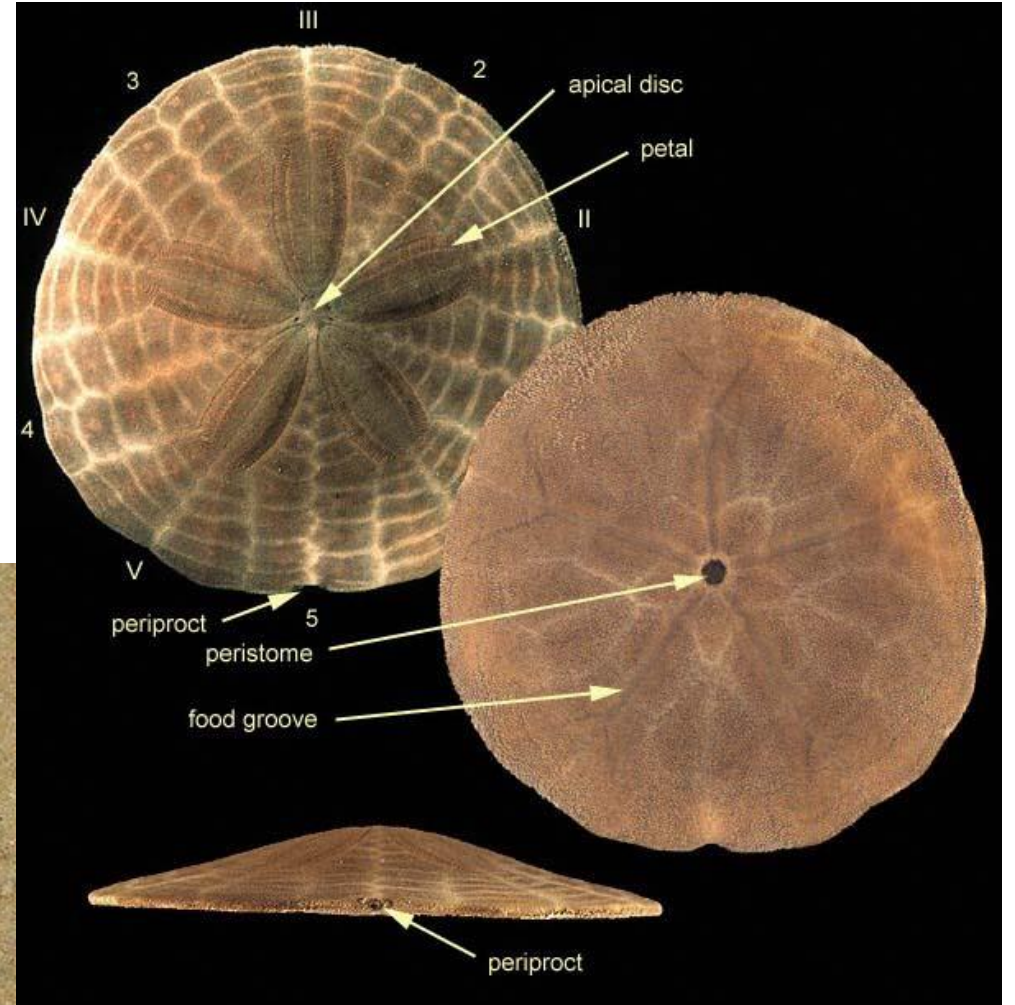
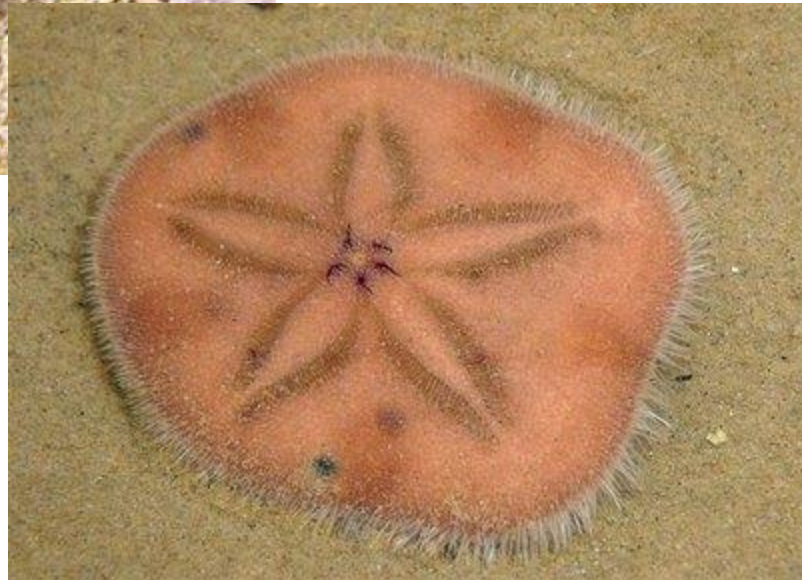


Brittle Stars

chart



Sand Dollars



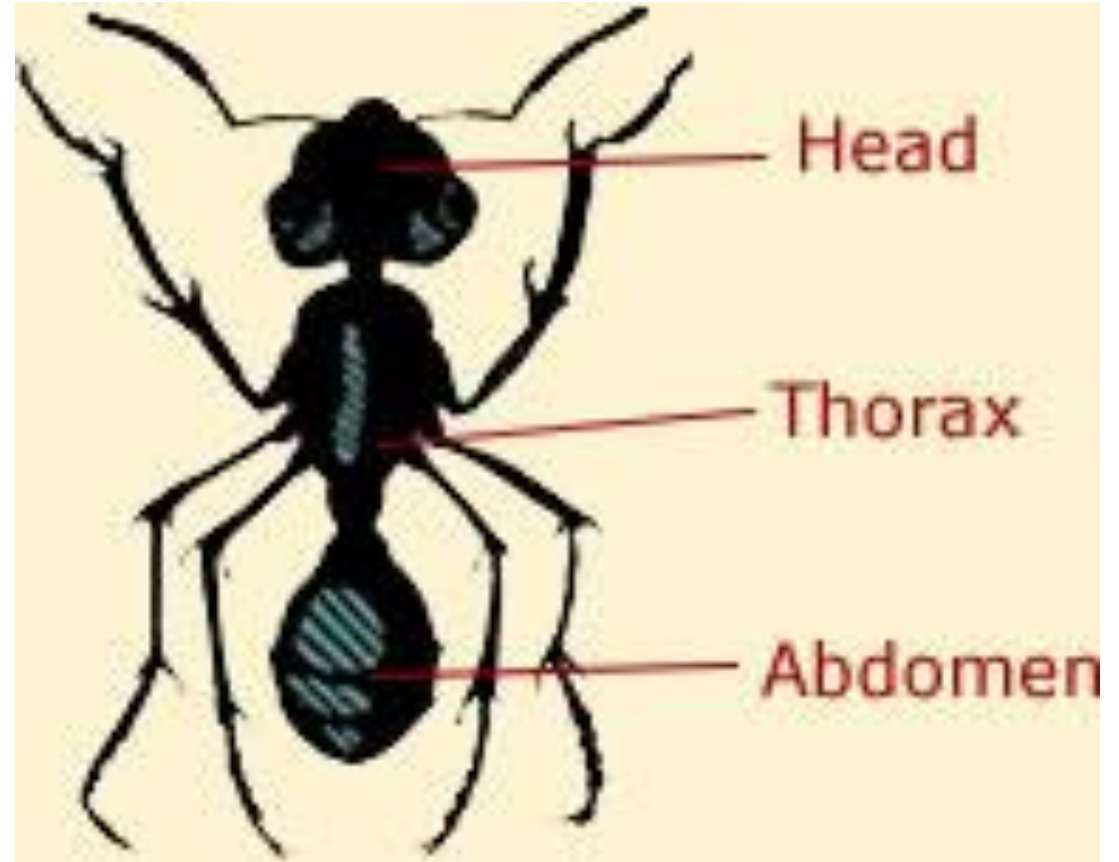
Arthropods

Largest group of animals on Earth

4 shared Characteristics

#8, 9

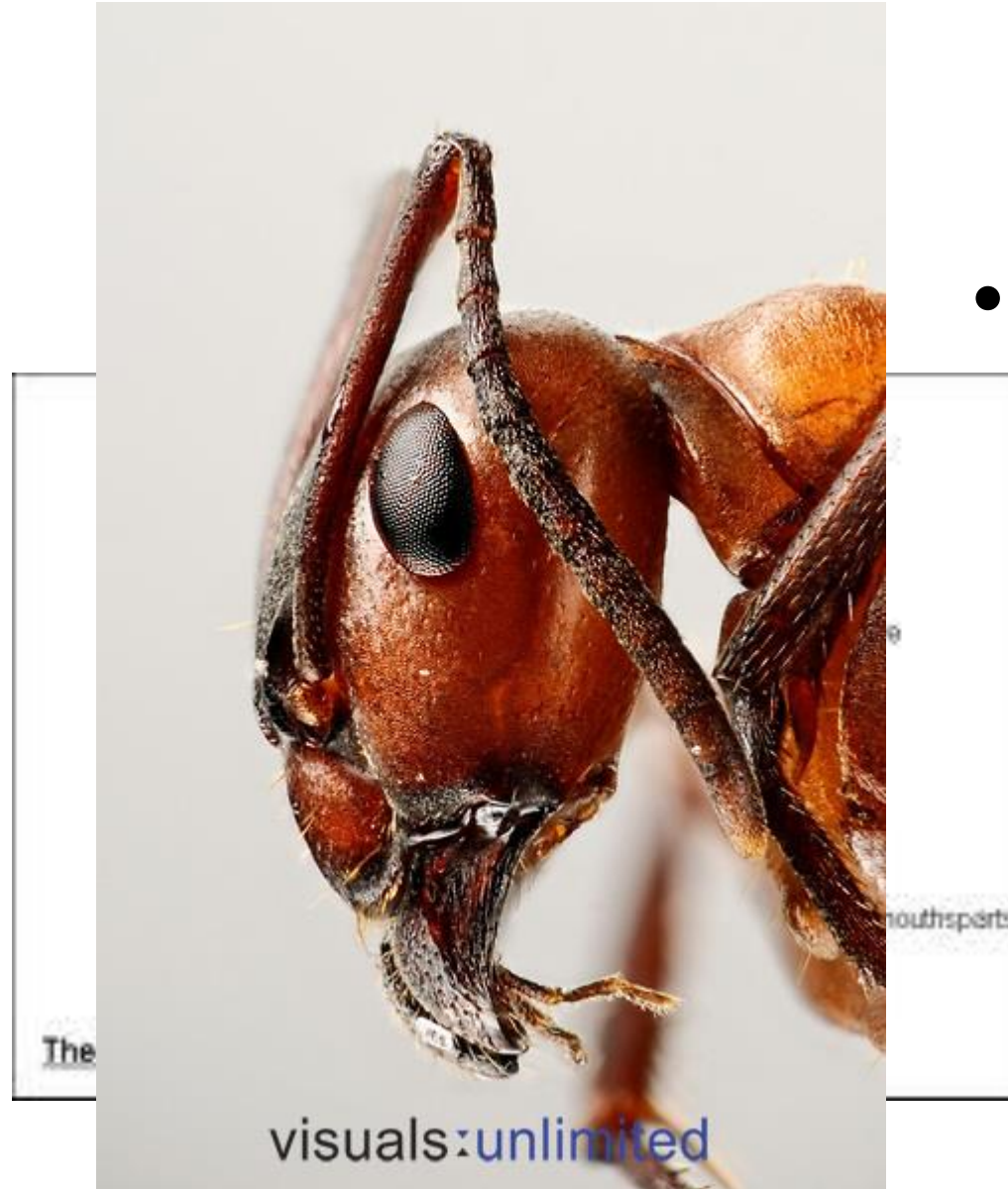
- Jointed limbs
 - *Arthro* “joint” *pod* “foot”
- Segmented specialized body
 - Head
 - Thorax
 - Abdomen
- Exoskeleton (chitin)
 - Protects
 - Allows motion



Body Parts

- Antennae

- Compound Eyes



- Mandible

Centipedes vs. Millipedes



How can
you tell?

Which is which?



Crustaceans*

*eyes on stalks, gills

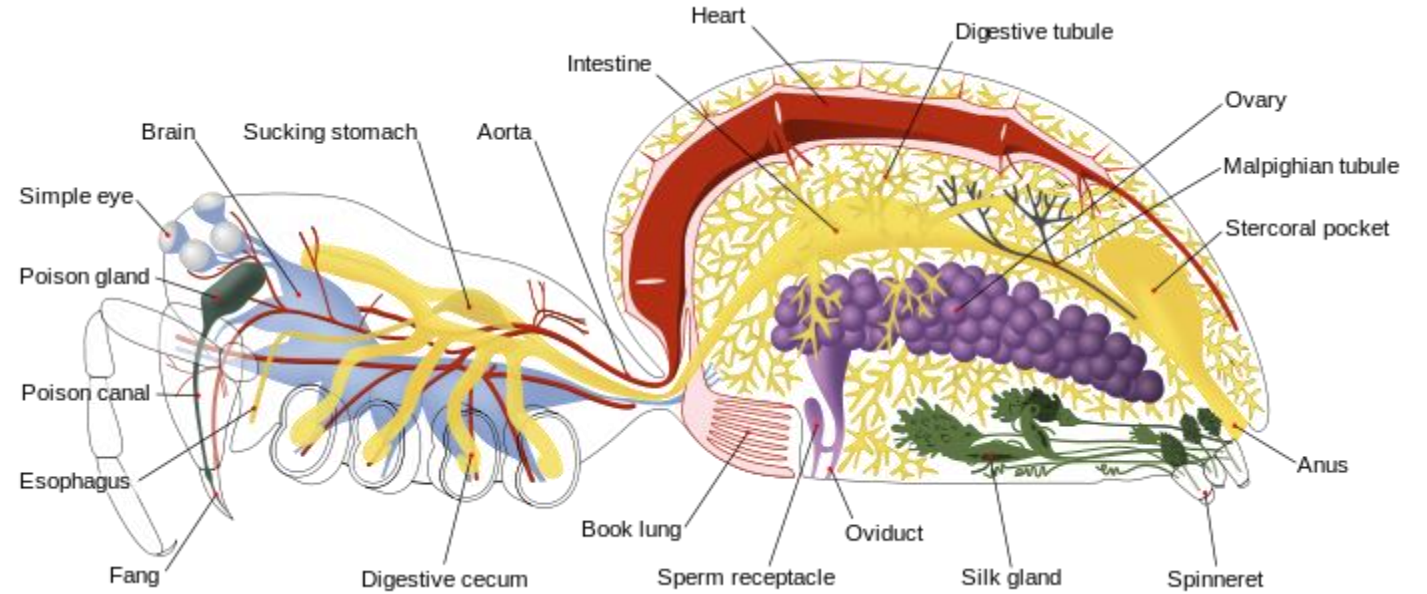




Arachnids*



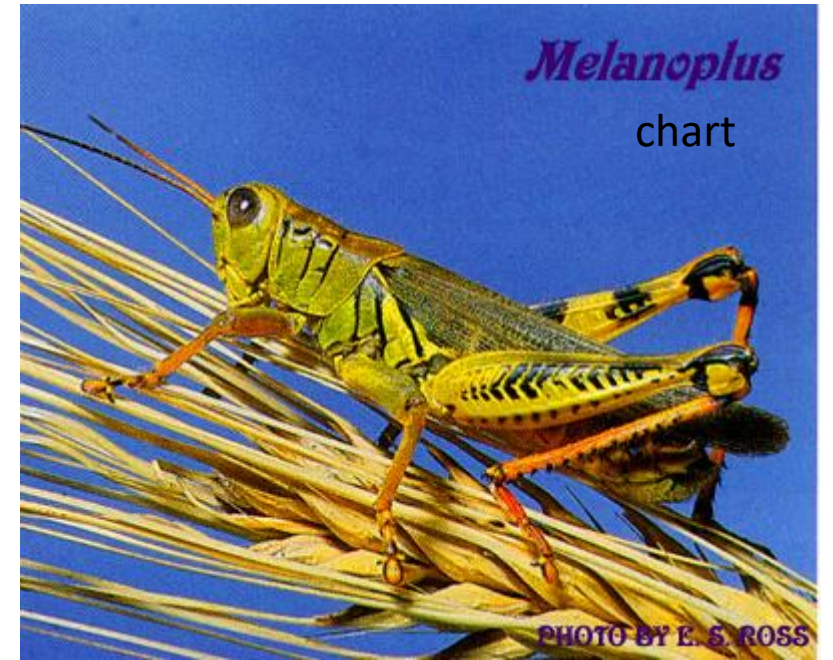
chart



*no mandibles- chelicerae

Insects

*only place they
don't live=
ocean

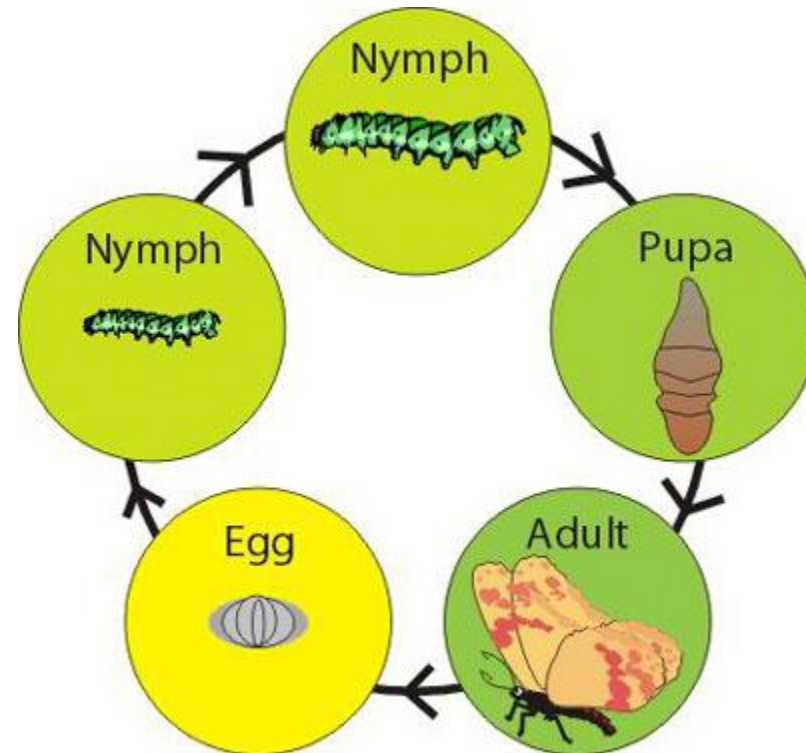


Metamorphosis

#10

Complete

- Larvae looks way different from adult
 - Egg
 - Larva
 - Pupa
 - Adult



Incomplete

- Larvae look like small adults
 - Egg
 - Nymph
 - Adult

