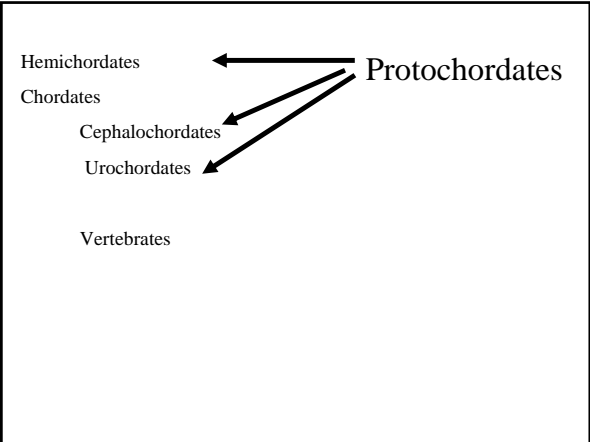
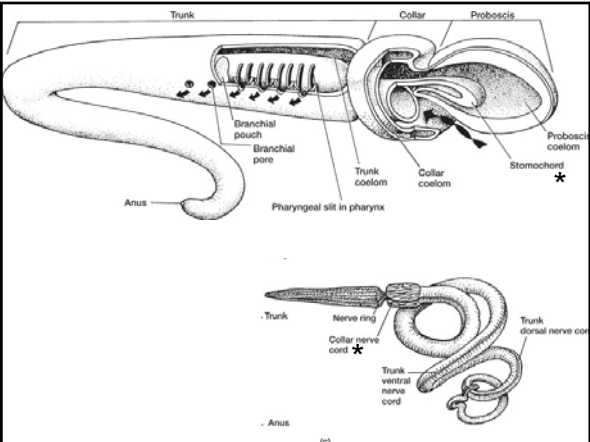
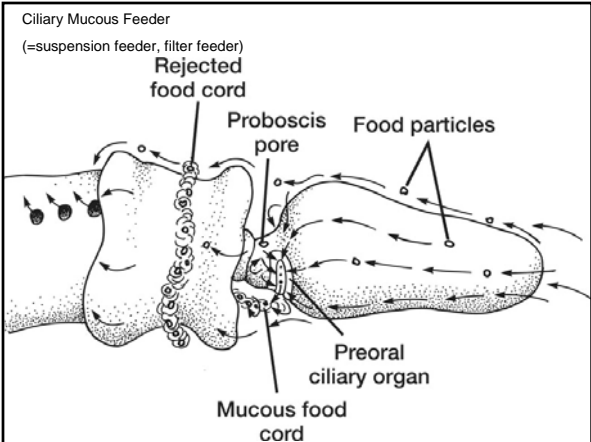
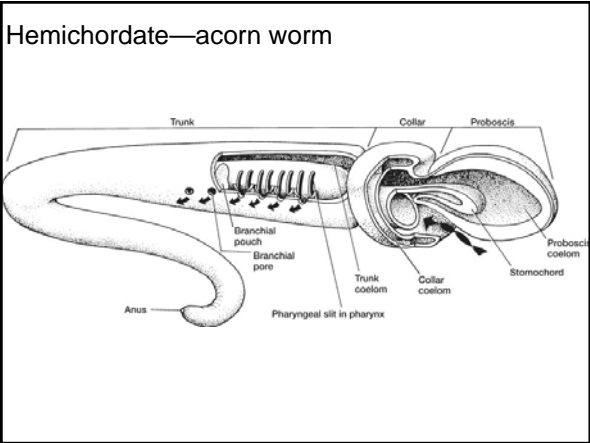
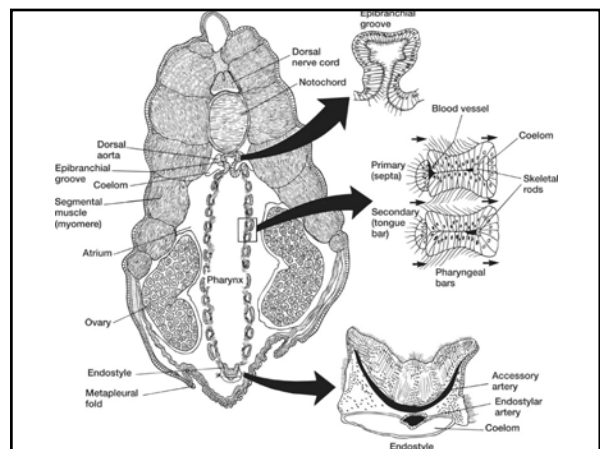
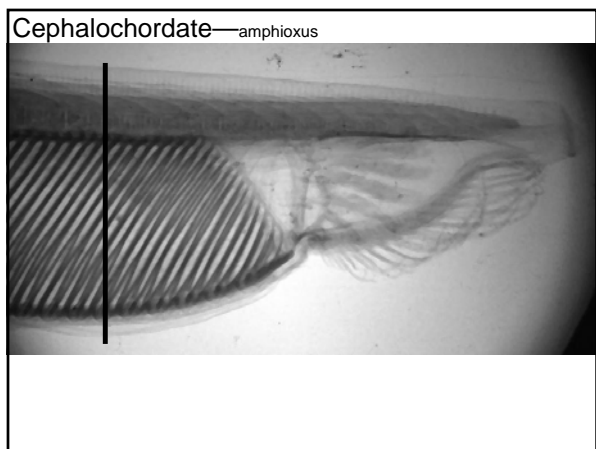
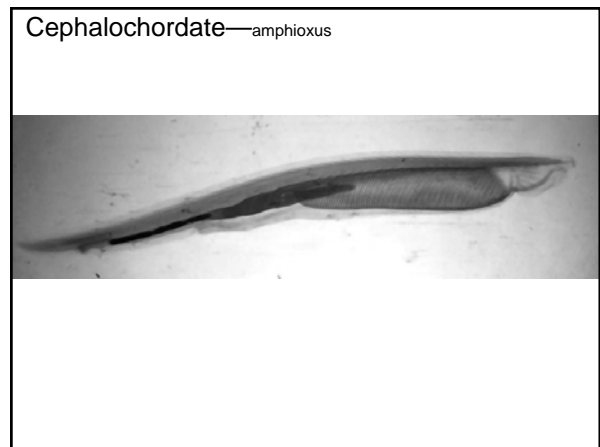
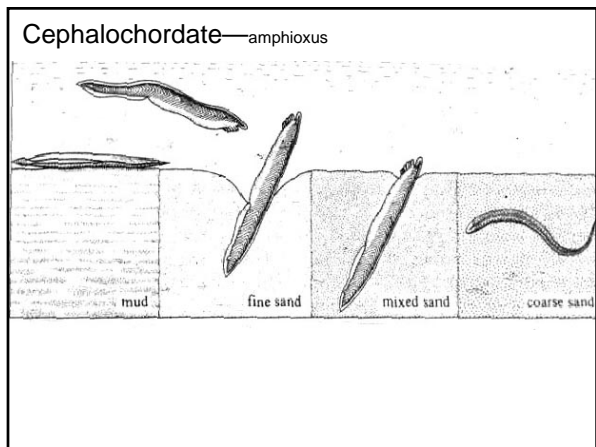
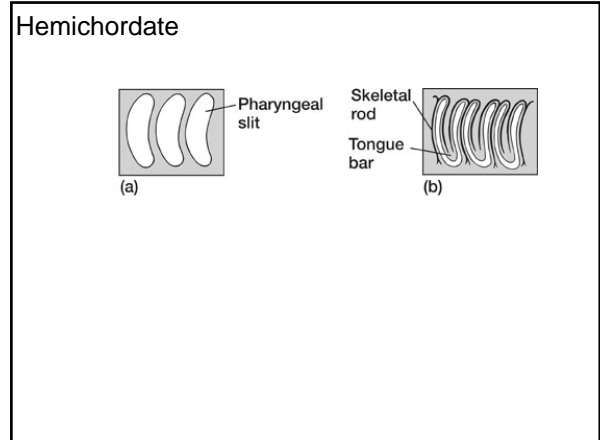
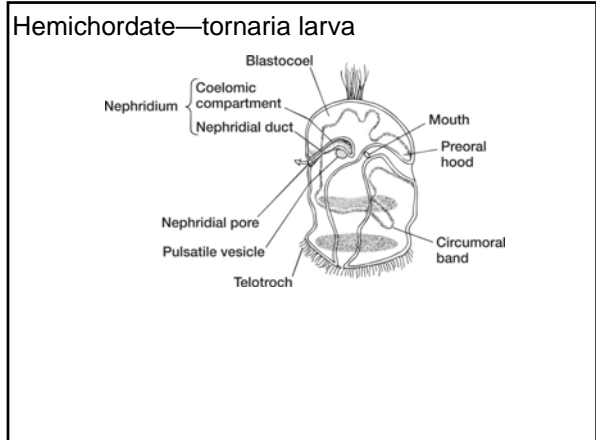


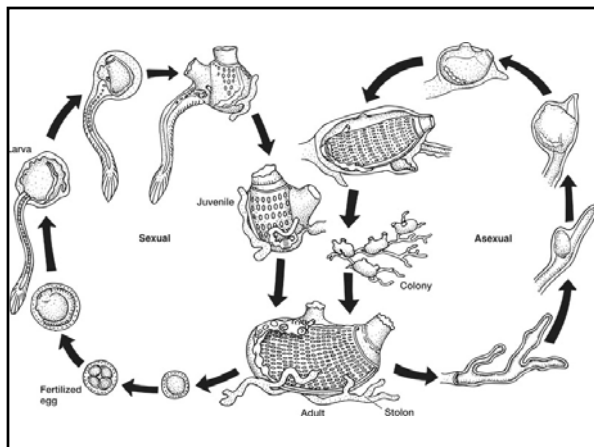
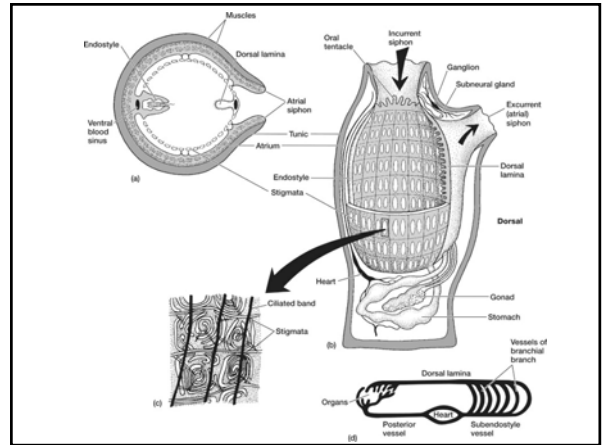
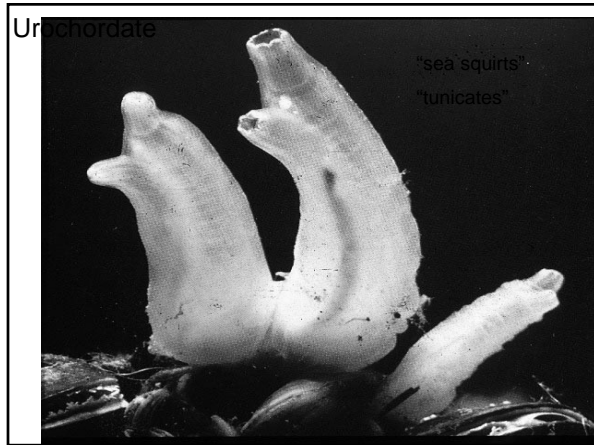
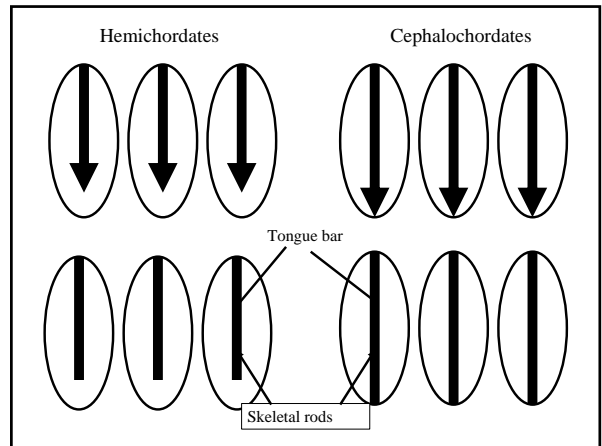
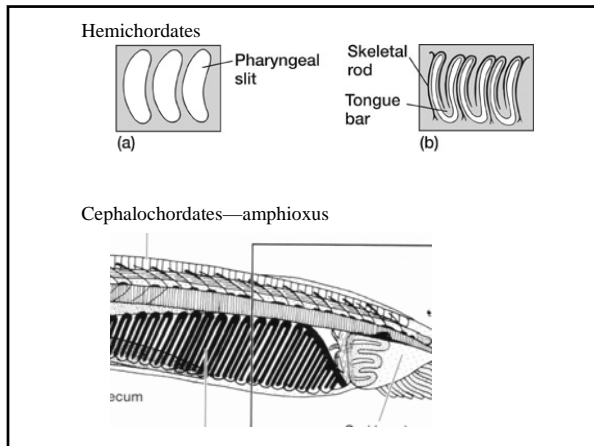
PROTOCHORDATES



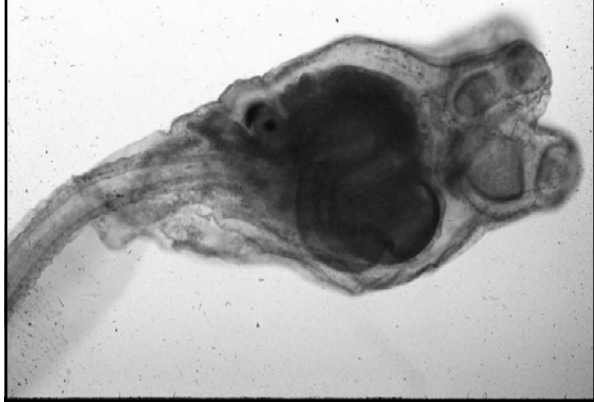
- 1) Notochord
- 2) Dorsal, hollow nerve cord
- 3) Pharyngeal slits
- 4) Postanal tail
- 5) other



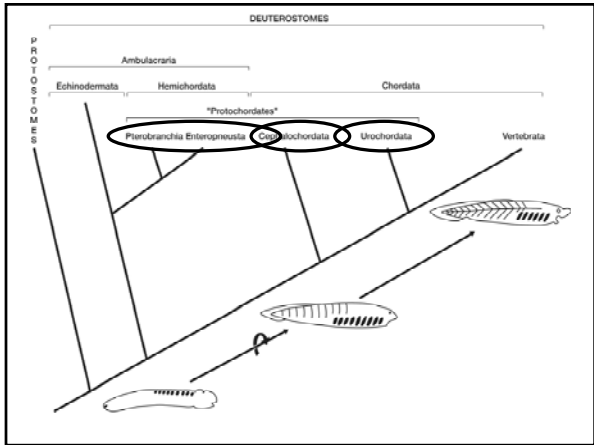
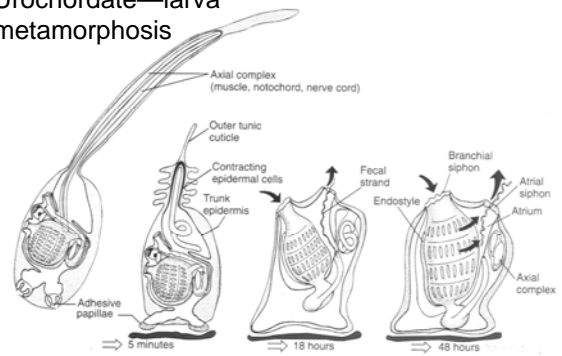




Urochordate—larva

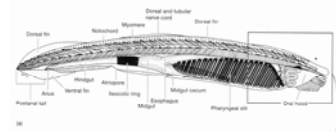


Urochordate—larva metamorphosis

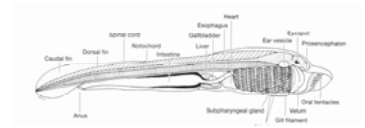


Amphioxus related to vertebrates?

Amphioxus



Ammocoetes larvae (Lamprey)



Vertebrate—lamprey



Lamprey larva—ammocoetes

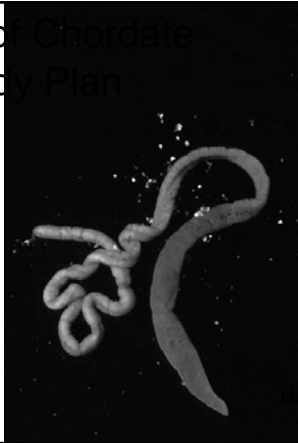


Lamprey larva—ammocoetes



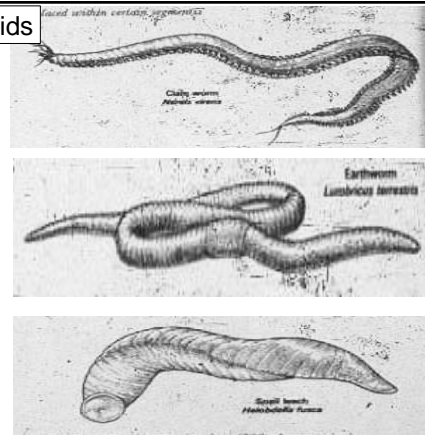
Origin of Chordate Body Plan

Origin of Body Plan

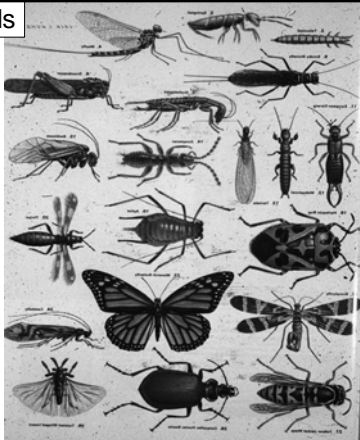


ubrecht (1883)

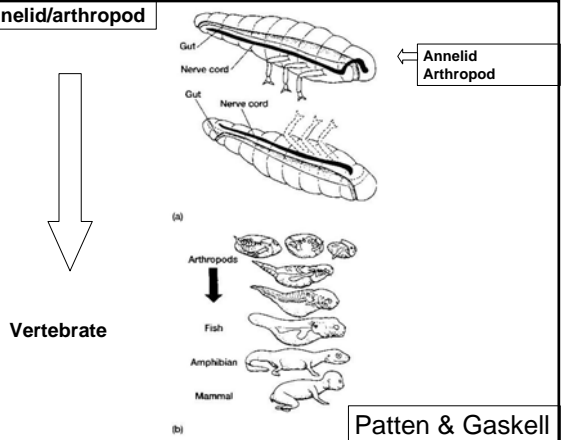
Annelids

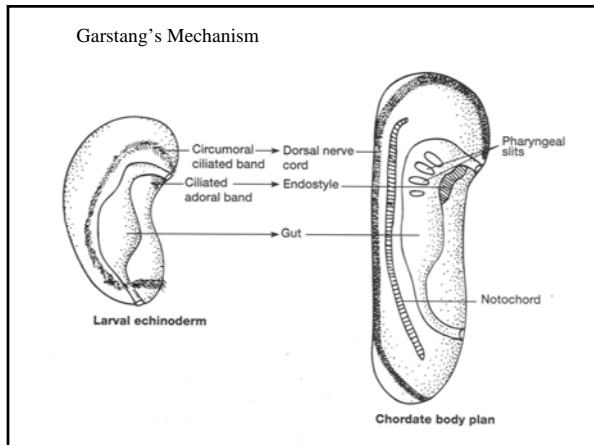
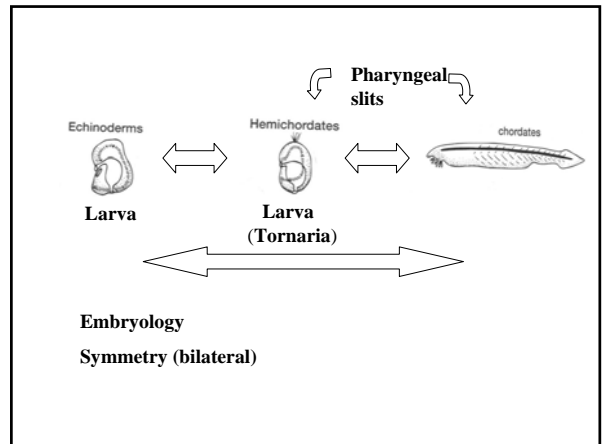
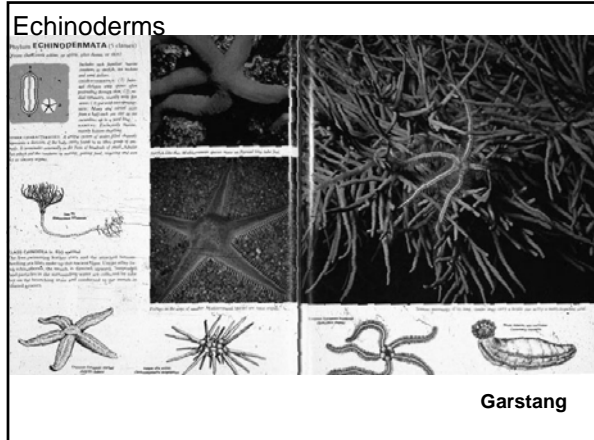


Arthropods



Annelid/arthropod





Selective Advantages

If larva gets BIGGER,

Mode of Locomotion

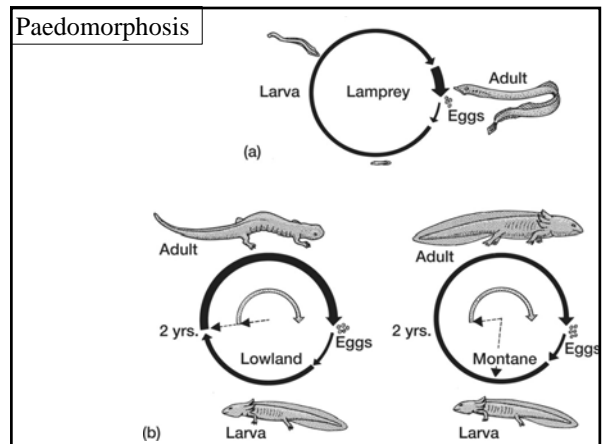
- 1, 2, 4 Cilia
- 1, 4, 16 Segmental muscles, notochord
- 1, 8, 64

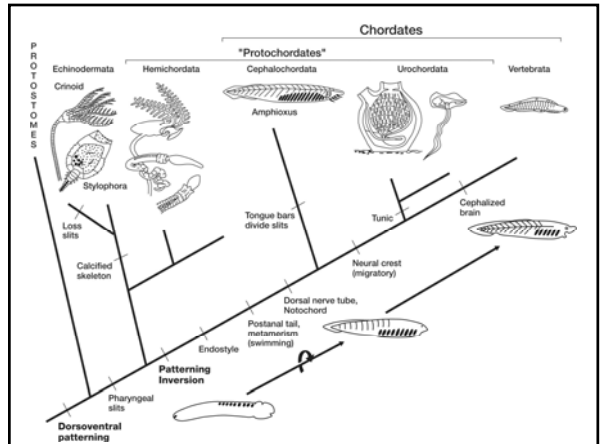
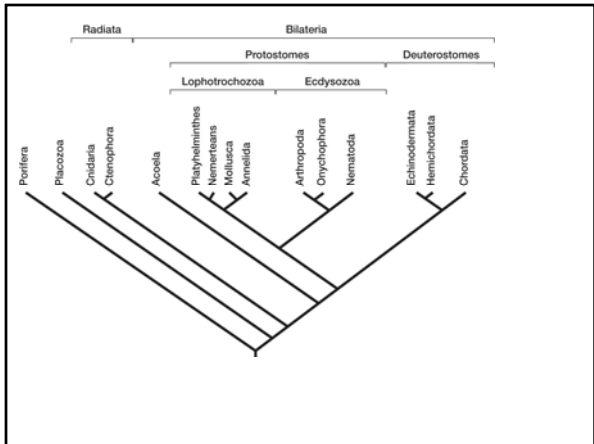
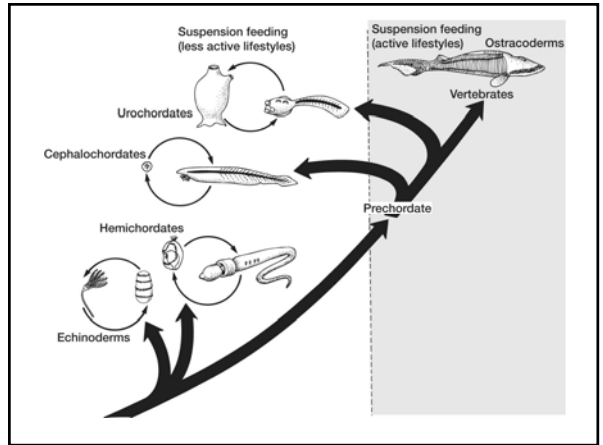
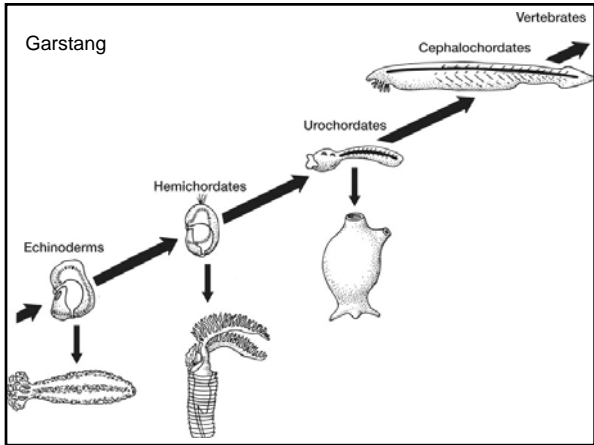
Mode of Feeding

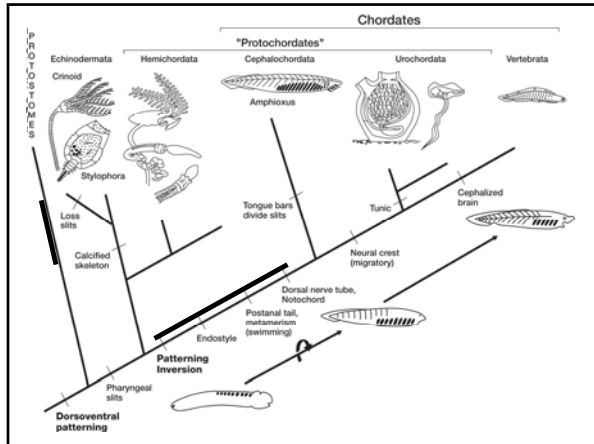
- Adoral band → Endostyle
- Water → Pharyngeal slits

But,
Larval stage

Paedomorphosis
Juvenile + form







Footnote

Paedomorphosis

