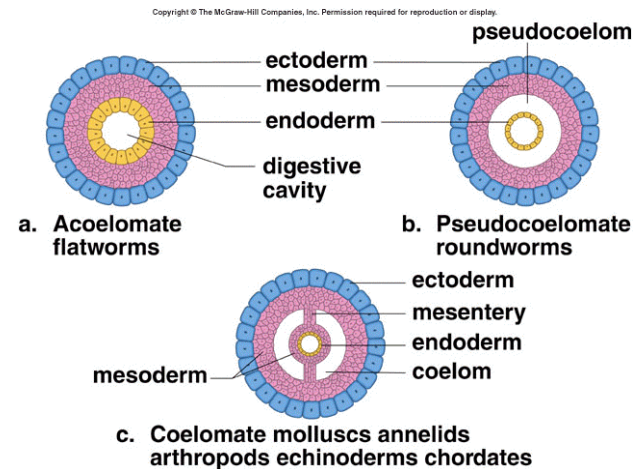


KEANEKARAGAMAN HEWAN

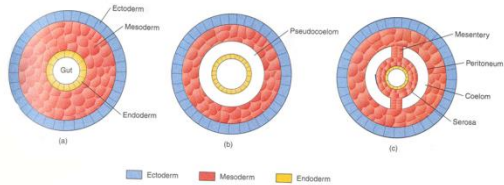
- **Invertebrata**
- **Vertebrata**
- **Ciri dan peranannya**

Ciri Pembeda FILUM HEWAN

- Lapisan embrio
- Simetri tubuh
- Kerangka tubuh
- Cara perbiakan
- Sistem saraf



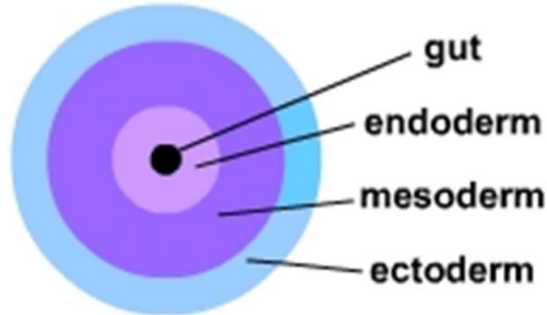
Lapisan embrio



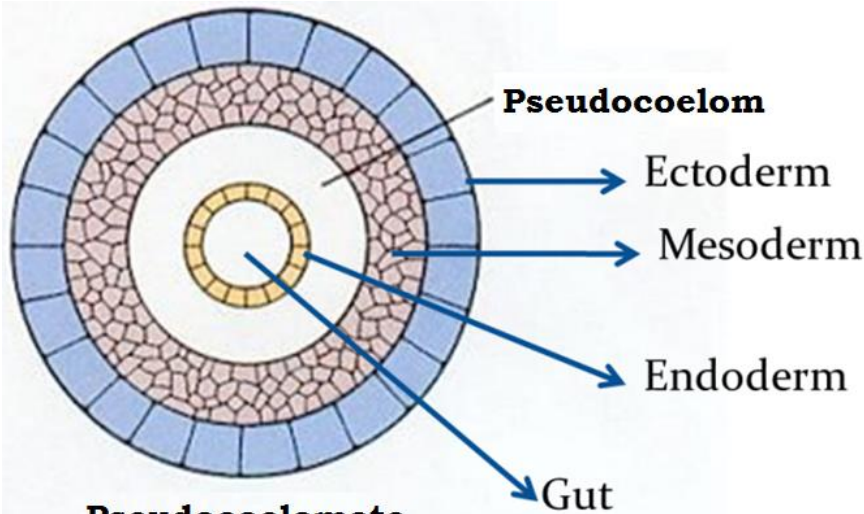
DIPLOBLASTIK = 2 LAPISAN
TRIPLOBLASTIK = 3 LAPISAN

- Diploblastik → Porifera & Coelenterata
- Triploblastik → Cacing - Chordata

**Triploblastic
Acoelomate**
e.g. platyhelminth

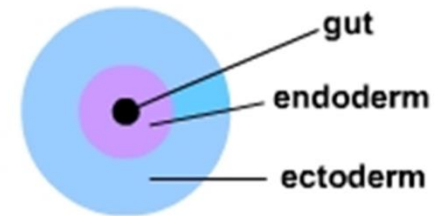


LAPISAN EMBRIO

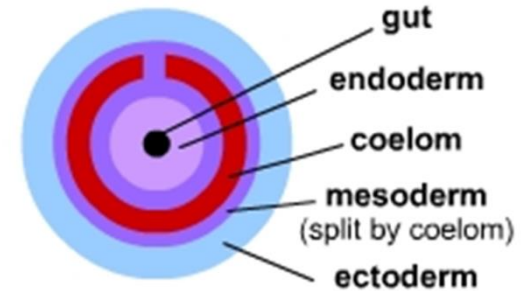


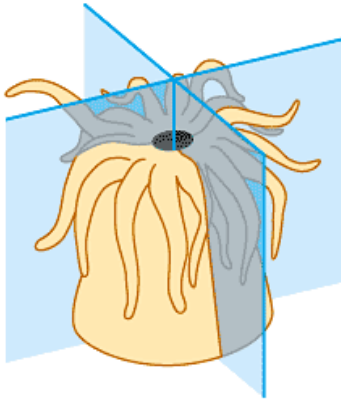
**Pseudocoelomate
: Nematoda**

Diploblastic
e.g. cnidarian

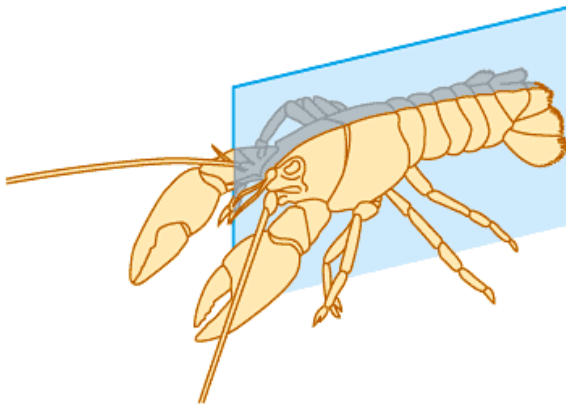
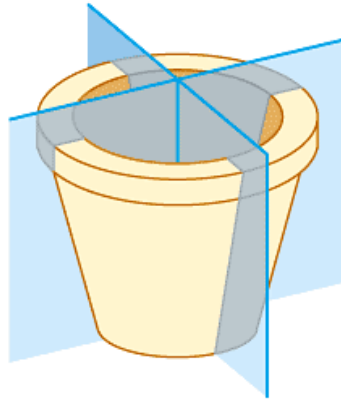


**Triploblastic
coelomate**
e.g. echinoderm
mollusc
chordate

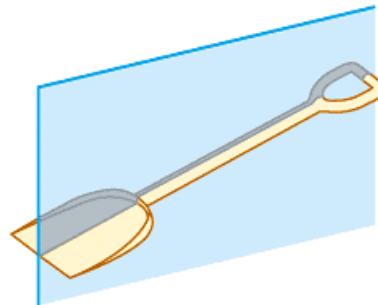




(a) Radial symmetry



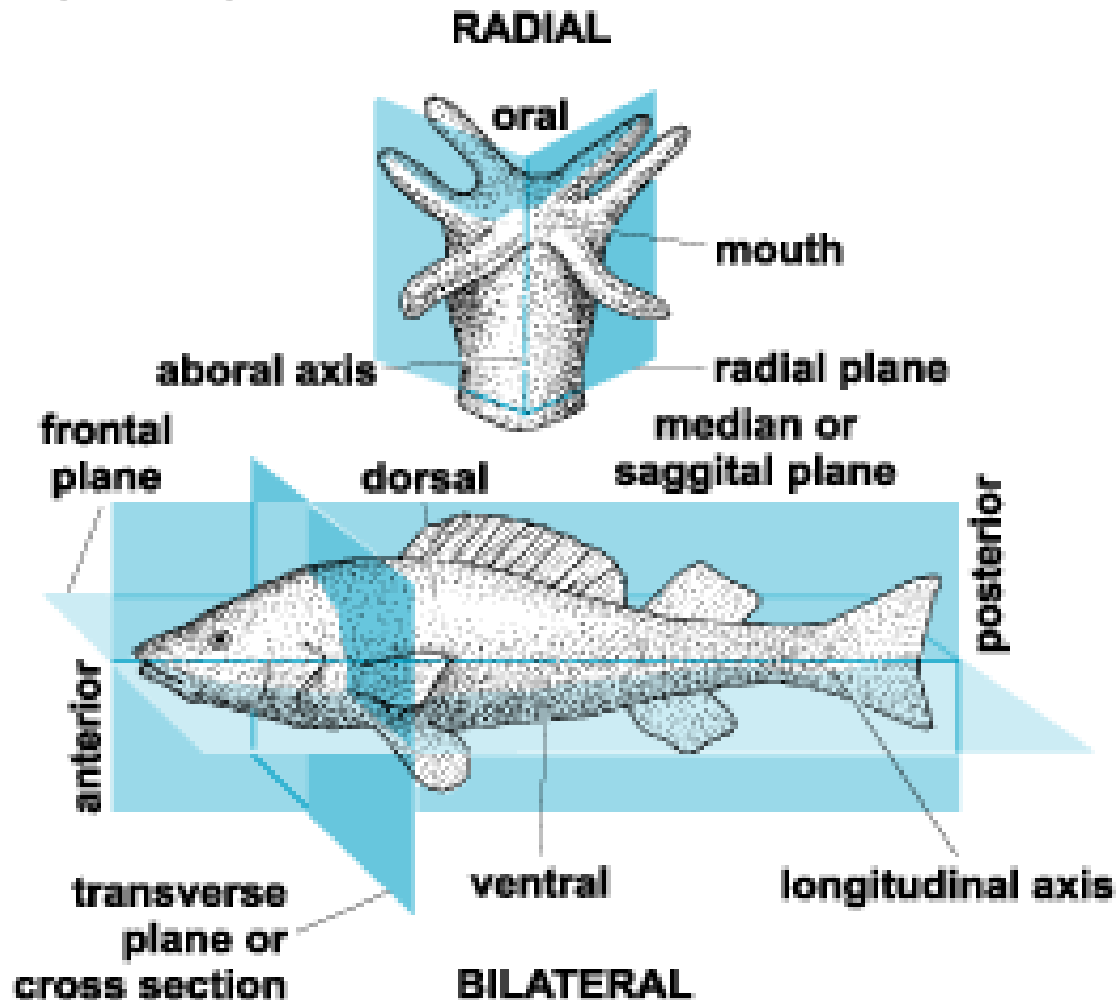
(b) Bilateral symmetry



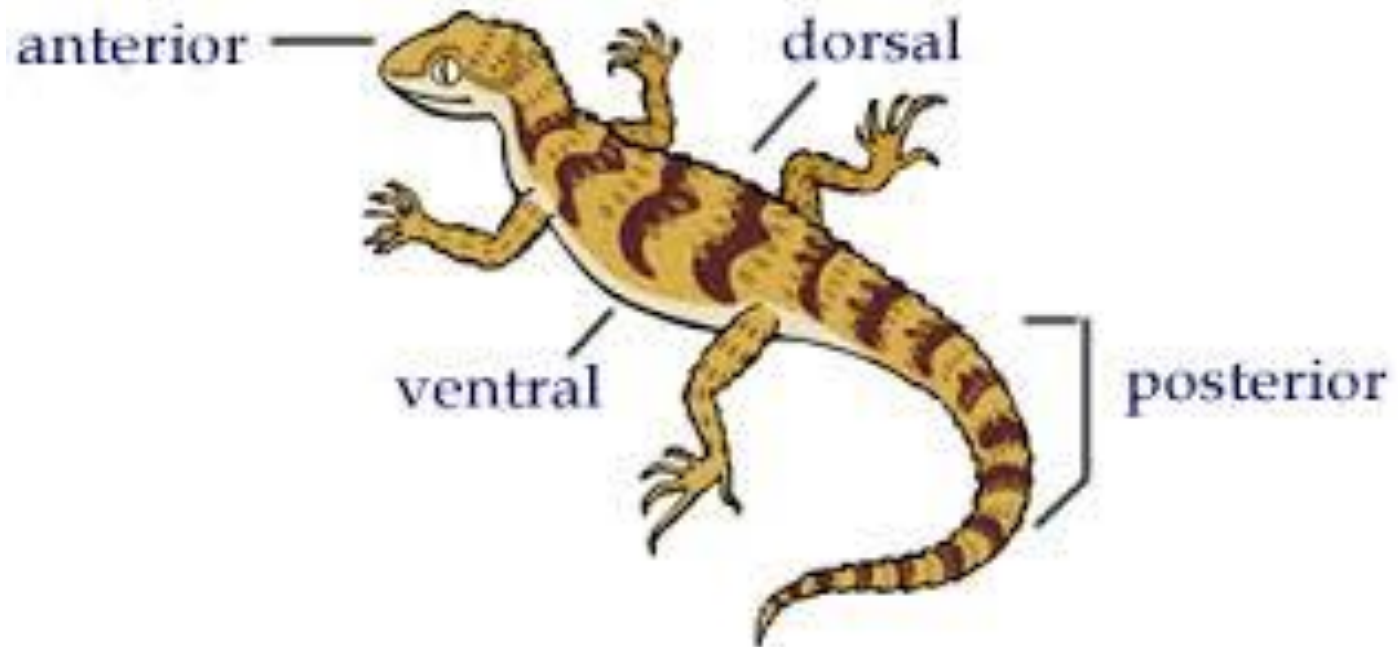
Simetri Tubuh

- Radial
- Bilateral

SISI TUBUH



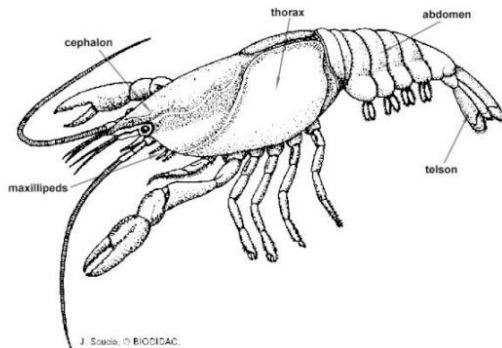
Sisi Tubuh



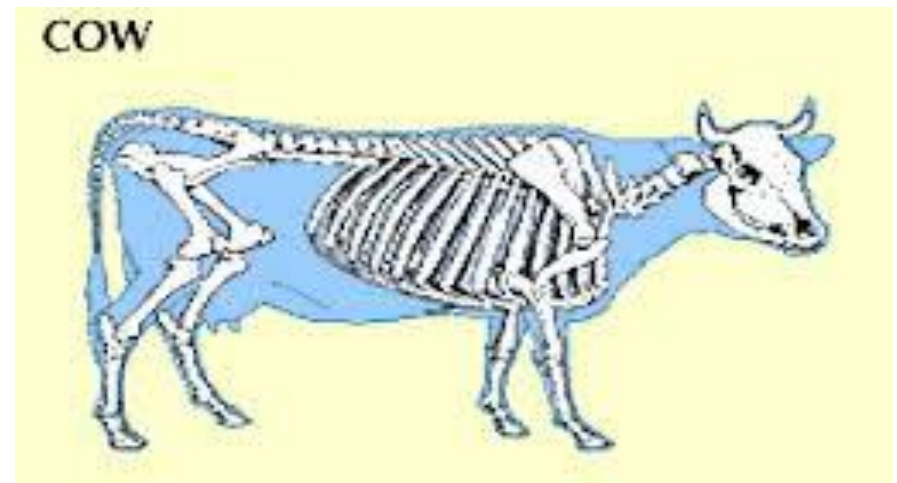
<http://www.biologycorner.com/lesson-plans/phyla/the-animal-kingdom/>

Sistem Kerangka

- Kerangka luar → eksoskeleton
- Kerangka dalam → endoskeleton



<https://sites.google.com/site/animalbiologyspring2010/crustaceans/e-physiology>



<http://kids.britannica.com/comptons/art-53983/Cattle-skeleton>

Reproduksi generatif



OVIPAR, bertelur



OVOVIVIPAR,
bertelur-beranak



©ARDEA/DANIELS, JOHN / ANIMALS ANIMALS/EARTH SCENES

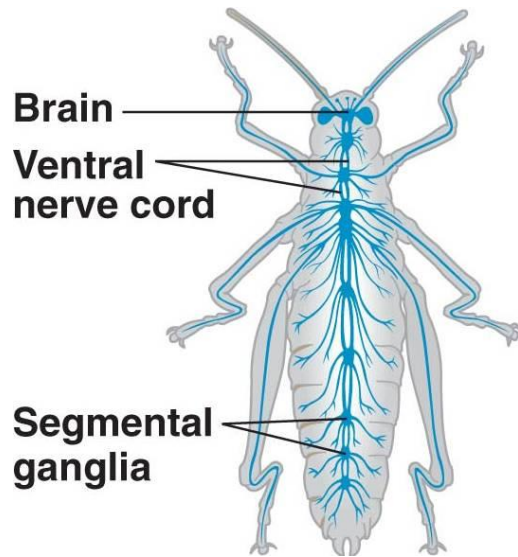
VIVIPAR, beranak

Vegetatif:

- bertunas
- regenerasi

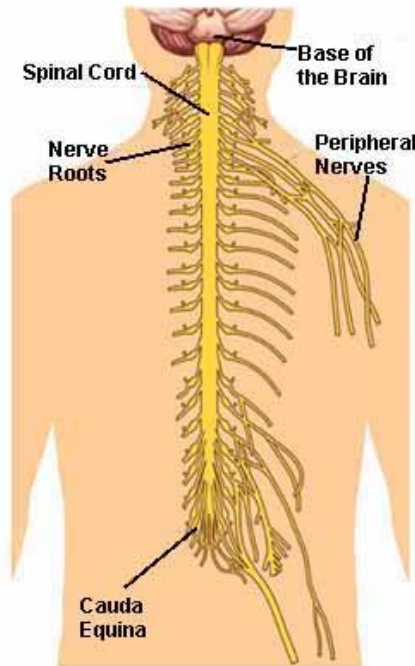
METAGENESIS

Sistem saraf

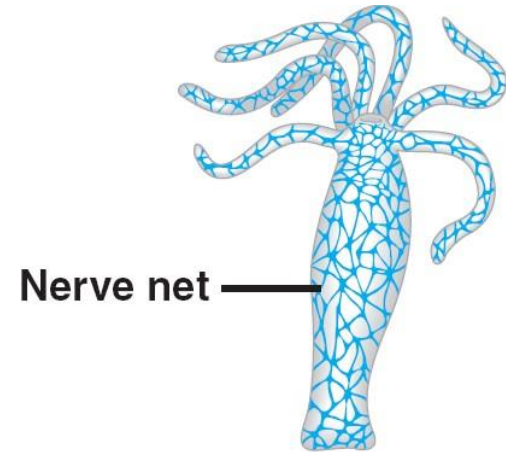


GANGLION

Spinal Cord and Nerve Structures



SUMBU SARAF

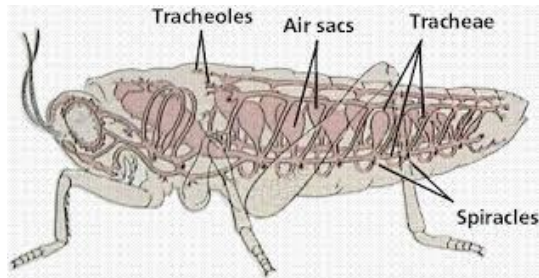


(a) Hydra (cnidarian)

DIFUS

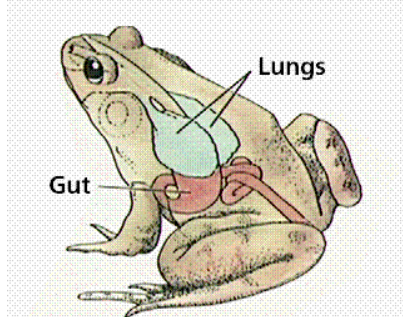


SISTEM RESPIRASI

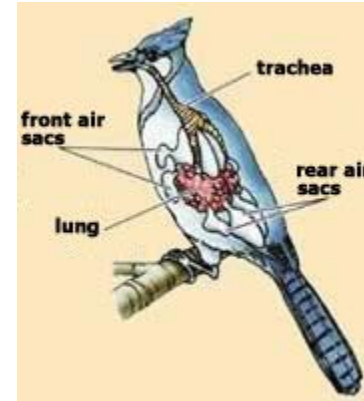


TRAKEA

Amphibian lungs are ventral outpocketings of the gut, though they lie dorsal to it

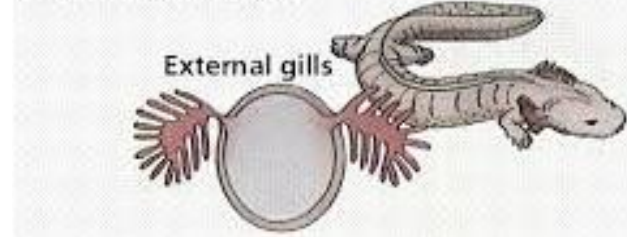


PARU-KULIT

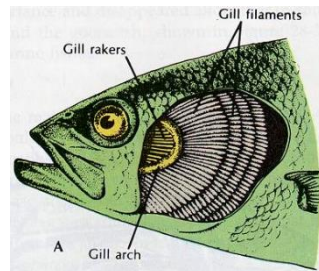


PARU-PUNDI UDARA

Gas-Exchange Organs



INSANG LUAR



INSANG DALAM

CLASSIFICATION OF ANIMALIA

- ❖ **PHYLUM 1 : PORIFERA**
- ❖ **PHYLUM 2 : COELENTRATA**
- ❖ **PHYLUM 3 : PLATYHELMINTHES**
- ❖ **PHYLUM 4 : NEMATODA**
- ❖ **PHYLUM 5 : ANNELIDA**
- ❖ **PHYLUM 6 : ARTHOPODA**
- ❖ **PHYLUM 7 : MOLLUSCA**
- ❖ **PHYLUM 8 : ECHINODERMATA**
- ❖ **PHYLUM 9 : CHORDATA**

L • B • S

Kingdom Animalia

[sembunyikan]

Eukariotik • Metazoa • Heterotrof

Avertebrata	Porifera	Calcarea • Hexactinellida • Demospongiae	    
	Ctenophora	Tentaculata • Nuda	
	Cnidaria	Hydrozoa • Scyphozoa • Anthozoa • Cubozoa • Staurozoa	
	Platyhelminthes	Turbellaria • Trematoda • Cestoda • Monogenea	
	Nematoda	Ascaris lumbricoides • Ancylostoma • Enterobius vermicularis • Wuchereria bancrofti • Trichinella spiralis • Heterodera radidicola	
	Annelida	Polychaeta • Oligochaeta • Hirudinea	
	Moluska	Polyplocophora • Gastropoda • Pelecypoda • Scaphopoda • Sefalopoda	
	Artropoda	Krustasea • Chelicerata • Myriapoda • Hexapoda	
	Echinodermata	Asteroidea • Ophiuroidea • Echinoidea • Holothuroidea • Crinoidea	
Vertebrata	Chordata	Acraniata	Urochordata • Cephalochordata • Hemichordata
		Craniata	Pisces/Agnatha • Chondrichthyes • Osteichthyes) • Amphibia • Reptilia • Aves • Mammalia

Terima Kasih