

Comparison ?'s

- A. How many of the following organisms are Deuterostomes?
- B. Give the Letter(s) of all organism(s) with incomplete digestive systems.
- C. How many phyla/classes are represented here?

Read Q's carefully

Compare traits and group

Phyla when studying!!!

Quick Review

- **Diploblastic** - 2 Cell Layers
- **Triploblastic** - 3 Cell Layers

Quick Review

- **Diploblastic** - 2 Cell Layers

Phylum **Cnidaria**

- **Triploblastic** - 3 Cell Layers

Phylum **Platyhelminthes**

onward...

Level of Organization

Cellular

Tissue

Organ

Level of Body Organization

Cell (multi) - **Phylum Porifera**

Tissue - **Phylum Cnidaria**

Organ - **Phylum Platyhelminthes**

onward...

Symmetry

Radial

Where do we first see this?

Bilateral

And this?

Pentaradial

And this?

Symmetry

Radial

Phylum **Cnidaria**

Bilateral

Phylum **Platyhelminthes**
onward...

Pentaradial

Phylum **Echinodermata**

exceptHolothuroidea which are
secondarily bilaterally symmetrical

Digestive Systems

Incomplete (No anus)

Can you name 2 phyla?

Complete (Have an anus)

Can you name 2 phyla?

Digestive Systems

Incomplete (No anus)

Phylum **Cnidaria**

Phylum **Platyhelminthes**

Complete (Have an anus)

Phylum **Nemertina** onward...

(no anus in C. Ophiuroidea!)

Body Cavity

Acoelomates

2 phyla

Phylum **Platyhelminthes**

Phylum **Nemertina**

Pseudocoelomates

2 phyla

Phylum **Nematoda**

Phylum **Rotifera**

(Eu)Coelomates

6 phyla

Phylum **Ectoprocta**

Phylum **Annelida**

Phylum **Arthropoda**

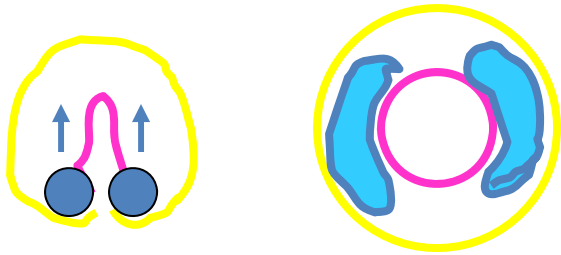
Phylum **Mollusca**

Phylum **Echinodermata**

Phylum **Chordata**

Coelom Development

Schizocoelous (EAMA)



Endoderm, Ectoderm,
Mesoderm, Coelom

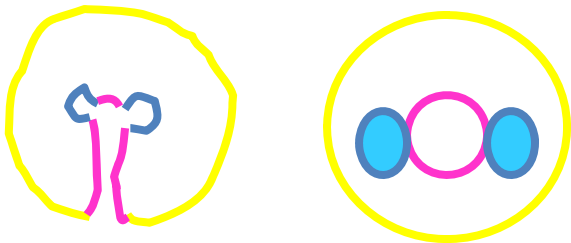
Phylum **Ectoprocta**

Phylum **Annelida**

Phylum **Mollusca**

Phylum **Arthropoda**

Enterocoelous



Phylum **Echinodermata**

Phylum **Chordata**

Protostomes

Some lit. includes Platyhelminthes & pseudocoelomates but we shall begin protostomes at eucoelomates for the purposes of this course.

Protostomes, and **S**piral cleavage,
Schizocoelous, **D**eterminate

E

“**P**a**S**S**e****D** it!” (**E****A****M****A**)

M

Phylum Ectoprocta

A

Phylum Annelida

Phylum Mollusca

Phylum Arthropoda

Deuterostomes

Radial cleavage, **E**nteroocoelous
Deuterostomes, **I**ndeterminate

"**REDI**" for anything!

C

Phylum **E**chinodermata

Phylum **C**hordata

Study Ideas

Make lists of structures for common purposes, and learn which organisms possess which them:

e.g. Book lungs, book gills, trachea, spiracles
papulae, lungs & gills.

e.g. Malpighian tubules, renette glands,
protonephridia, flame cells/bulbs etc....

e.g. Statoblasts, gemmules, cryptobiotic eggs

Be able to define

these terms and identify organisms that illustrate them

- Cephalization
- Tagmatization
- Serial Homology
- Torsion
- Ecdysis
- Metamerizism
- Homology
- Polymorphism
- Detorsion
- Syncytial

This list is not exhaustive....add to it yourself!

Memory tip!

- Learn the exceptions to the rules, the oddities (*I love to test on those!*)

Make sure you understand *why* they are tricky though

Fire coral is NOT a coral....it has a medusa

Turbellaria is the only free-living class in

Platyhelminthes; other two are parasitic

Ophiuroidea - no anus, tube feet plated & not for locomotion

Holothuroidea - secondary bilateral symmetry

Good Luck!

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& me!