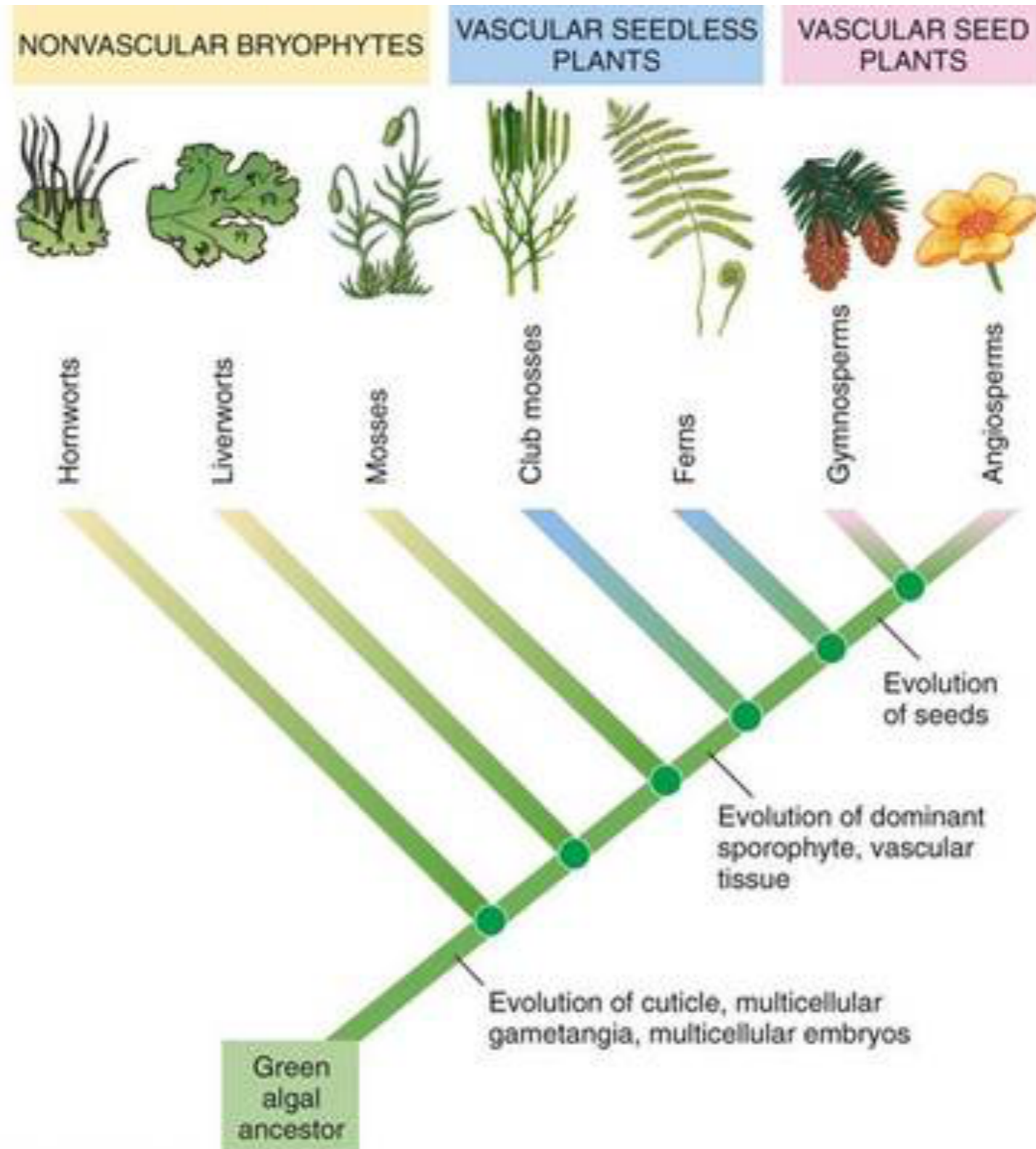
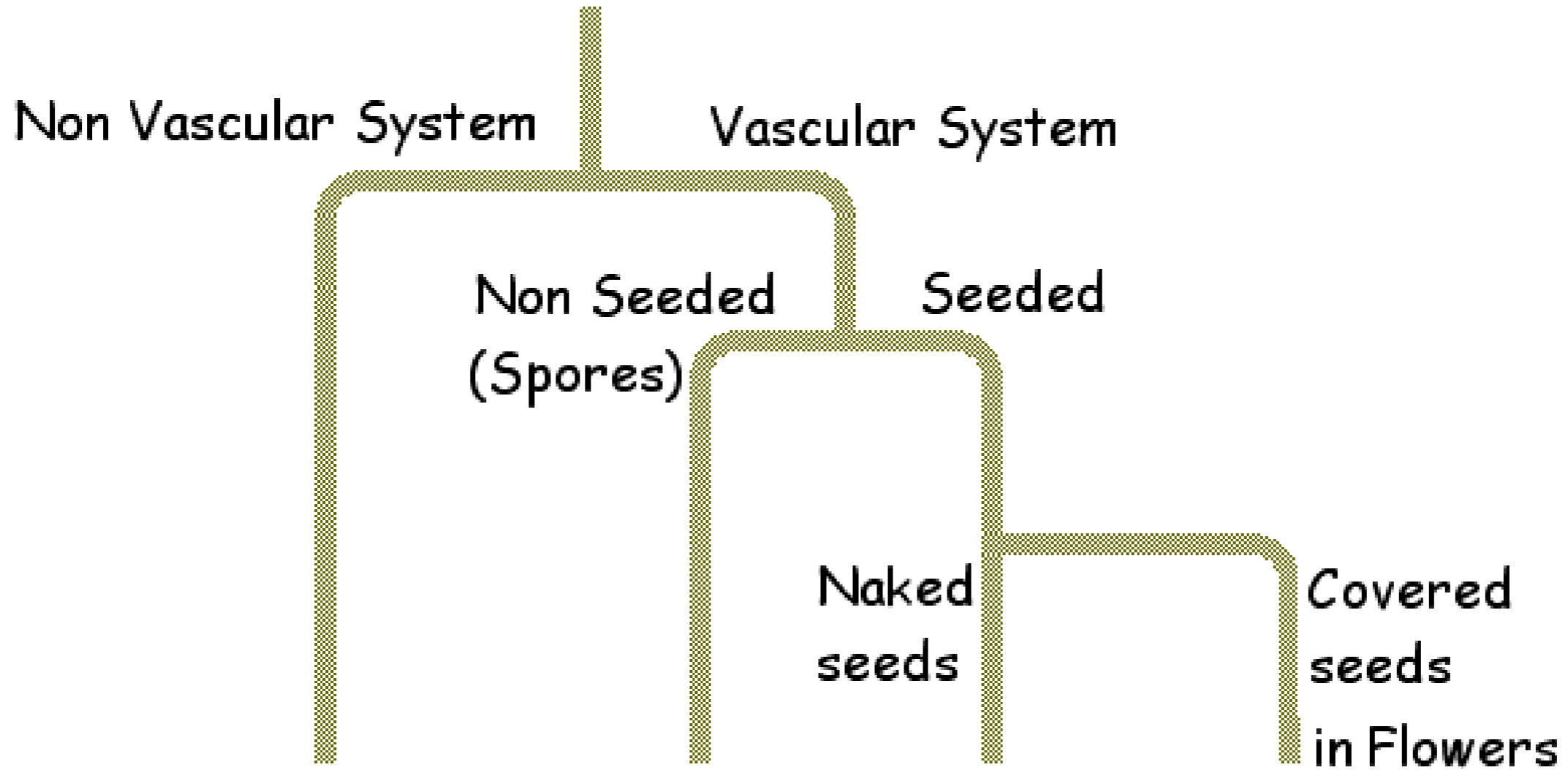


Plants Phylums



Kingdom Plantae



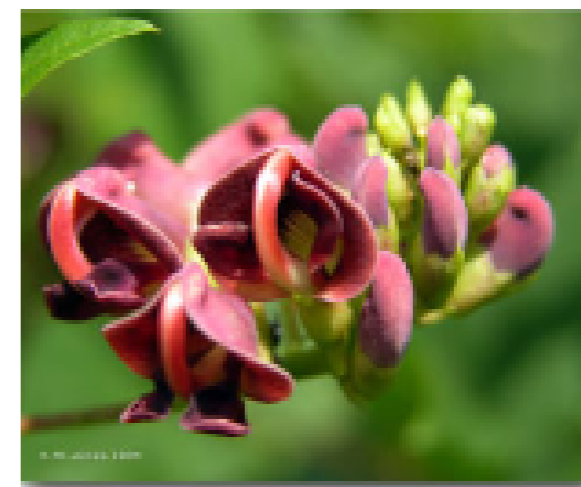
Mosses
Bryophytes



Ferns
Filicinophyta



Coniferophyta



Angiospermophyta

Bryophyta





Mosses (Bryophytes)

- Lack the vascular tissue (*Phloem and Xylem*)
- Lack cambium - tissue that makes phloem and xylem
- lacks true leaves
- Requires moist environments
- Produce asexual spore from a sporangium



Vascular Tissue



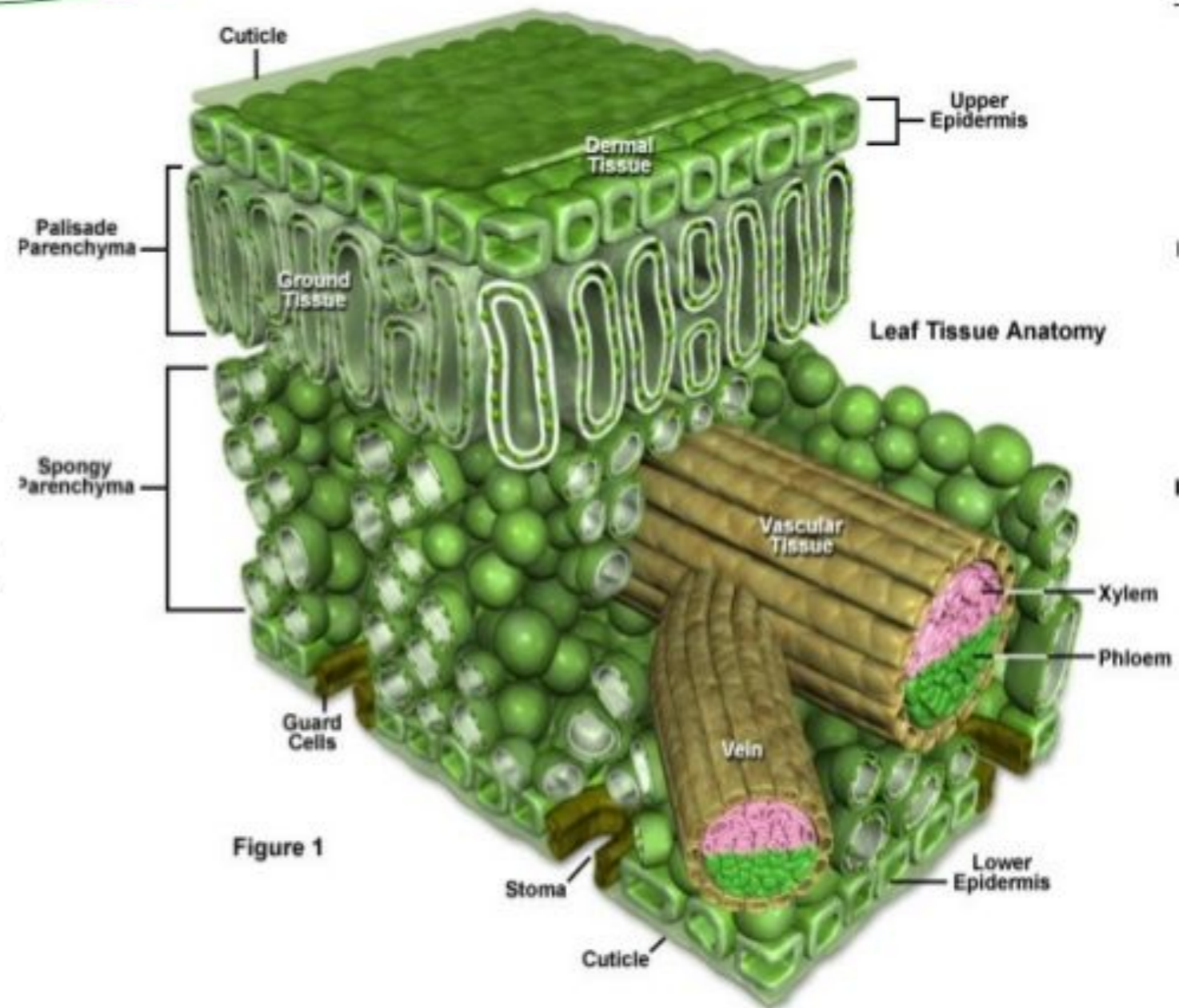
PLANTS

Structures

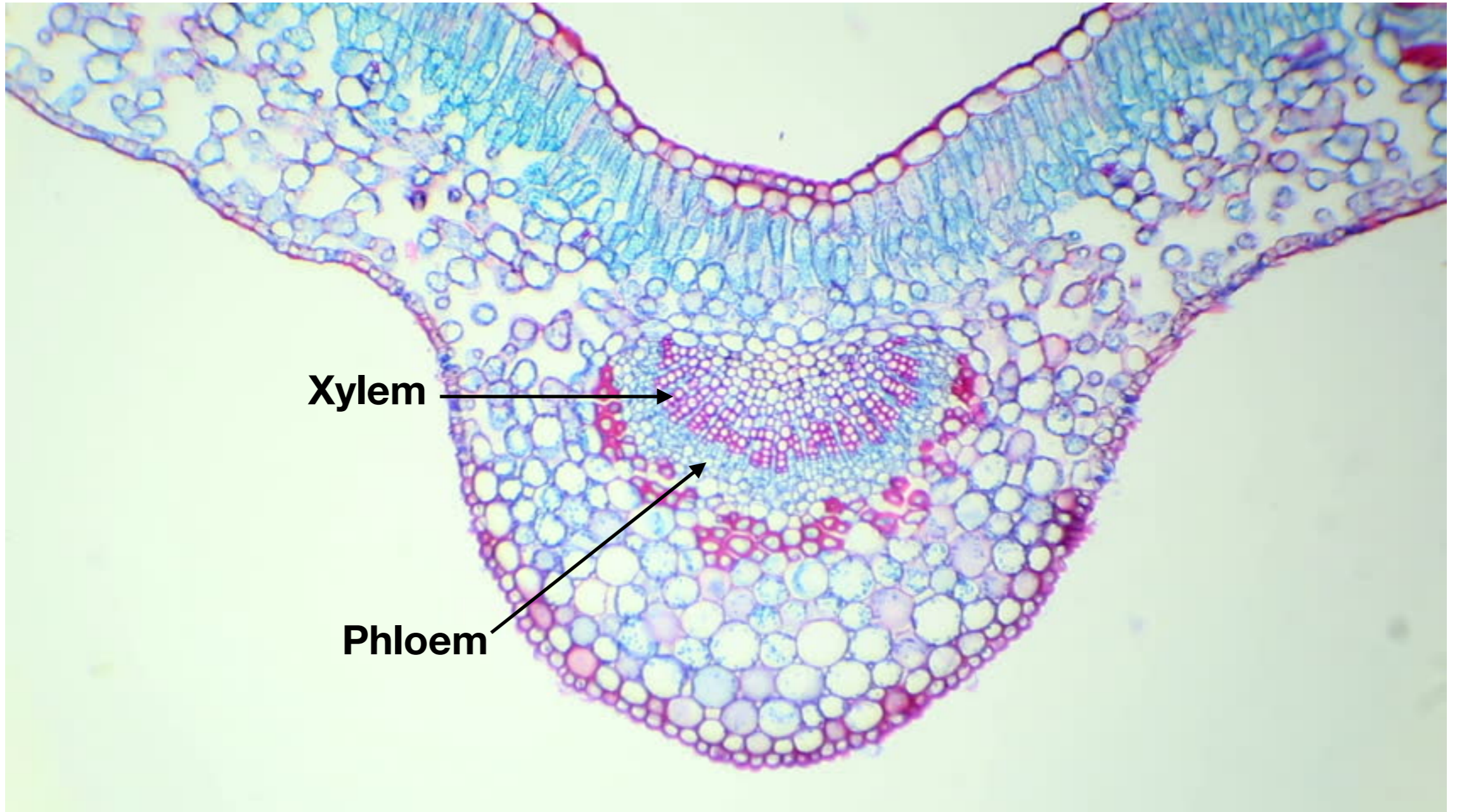
The Leaf: Vascular Tissue

The VEINS – made up of **xylem** and **phloem** which are bundled together in thin strands.

They allow the movement of **water** and **nutrients**



Vascular Tissue



Filicinophyta (ferns)



Filicinophyta

(seedless vascular plants)

- Have a vascular system - phloem and xylem
- Reproduce asexually by spores
- Large leaves called fronds
- Large underground stems called rhizomes



phloem
and xylem



Coniferophyta

- **NON**-flowering plants ('naked seeds')
- most evergreen (photosynthesize whenever conditions allow)
- male & female cones; wind dispersal
- predominant tree in northern climates





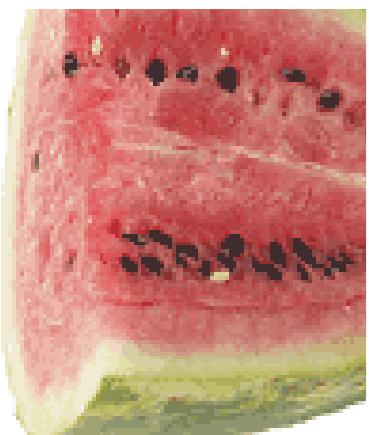
Angiospermophyta



- flowering to allow for sexual reproduction (pollen ♂ + ovule ♀)
- Vascular tissue and cambium
- Seeds are covered by fruit
- contain true leaves



eg. Tulips, Maple trees, rose, grass



Name that Phylum











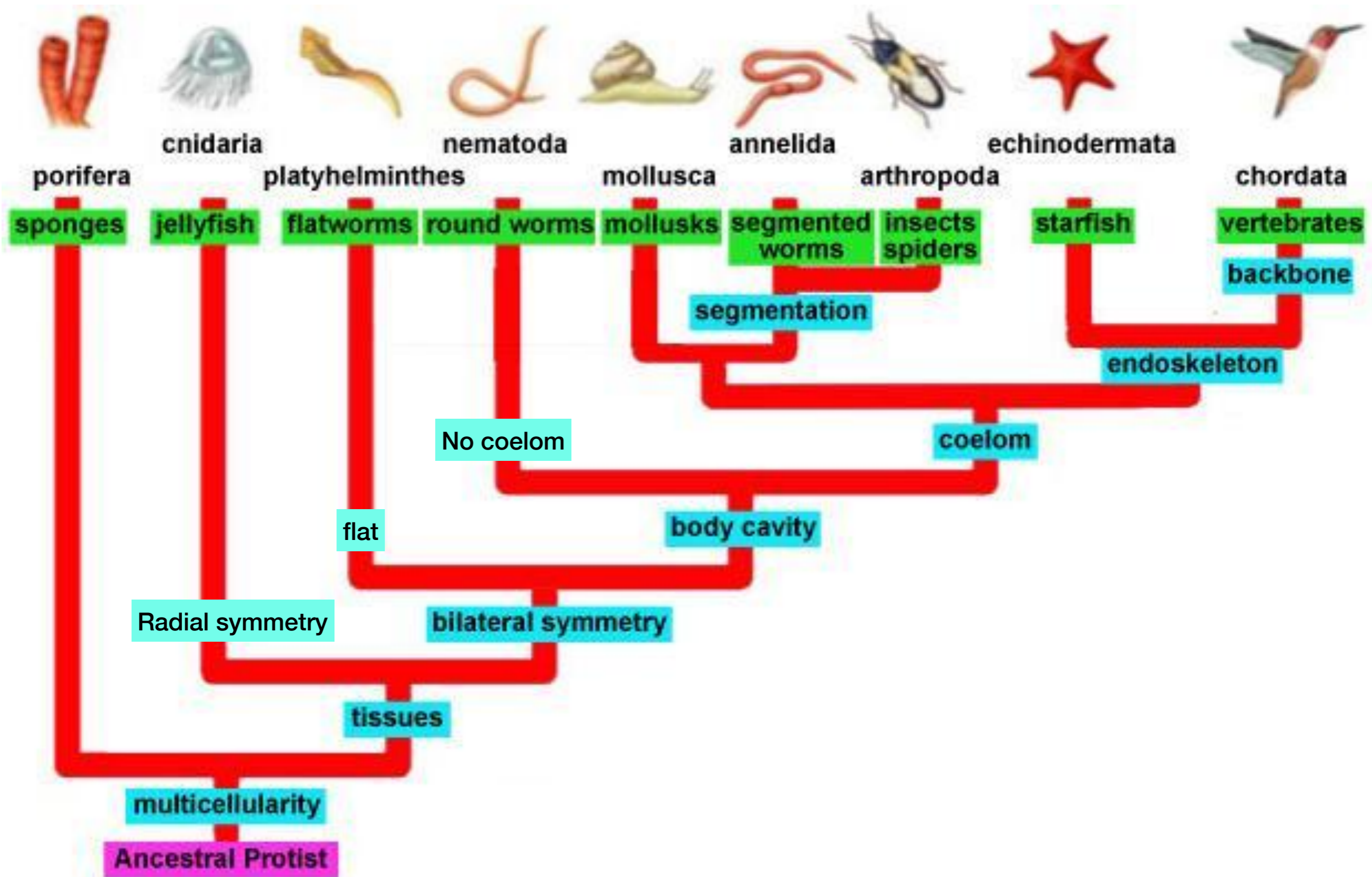






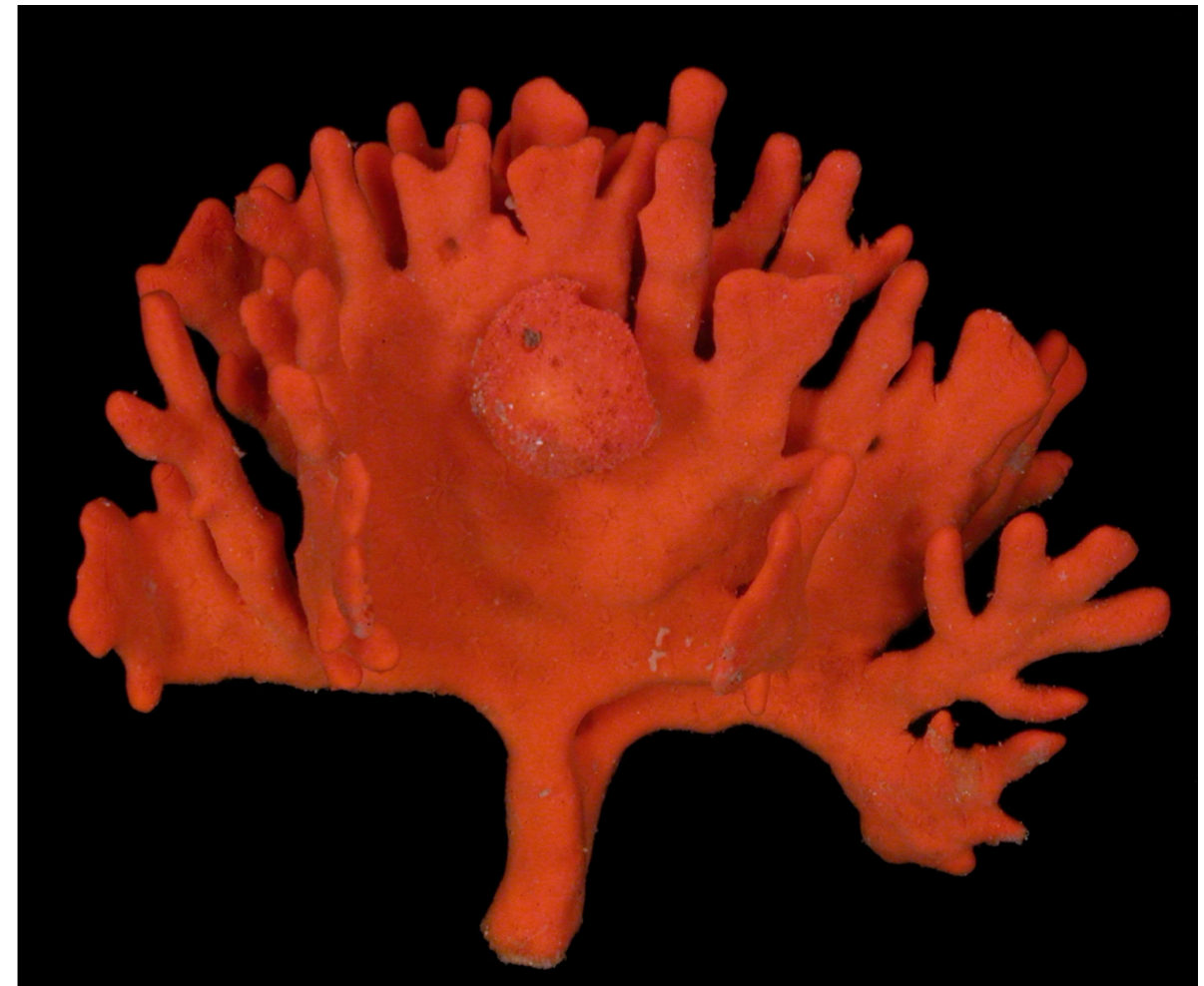


Invertebrate Animal Classification

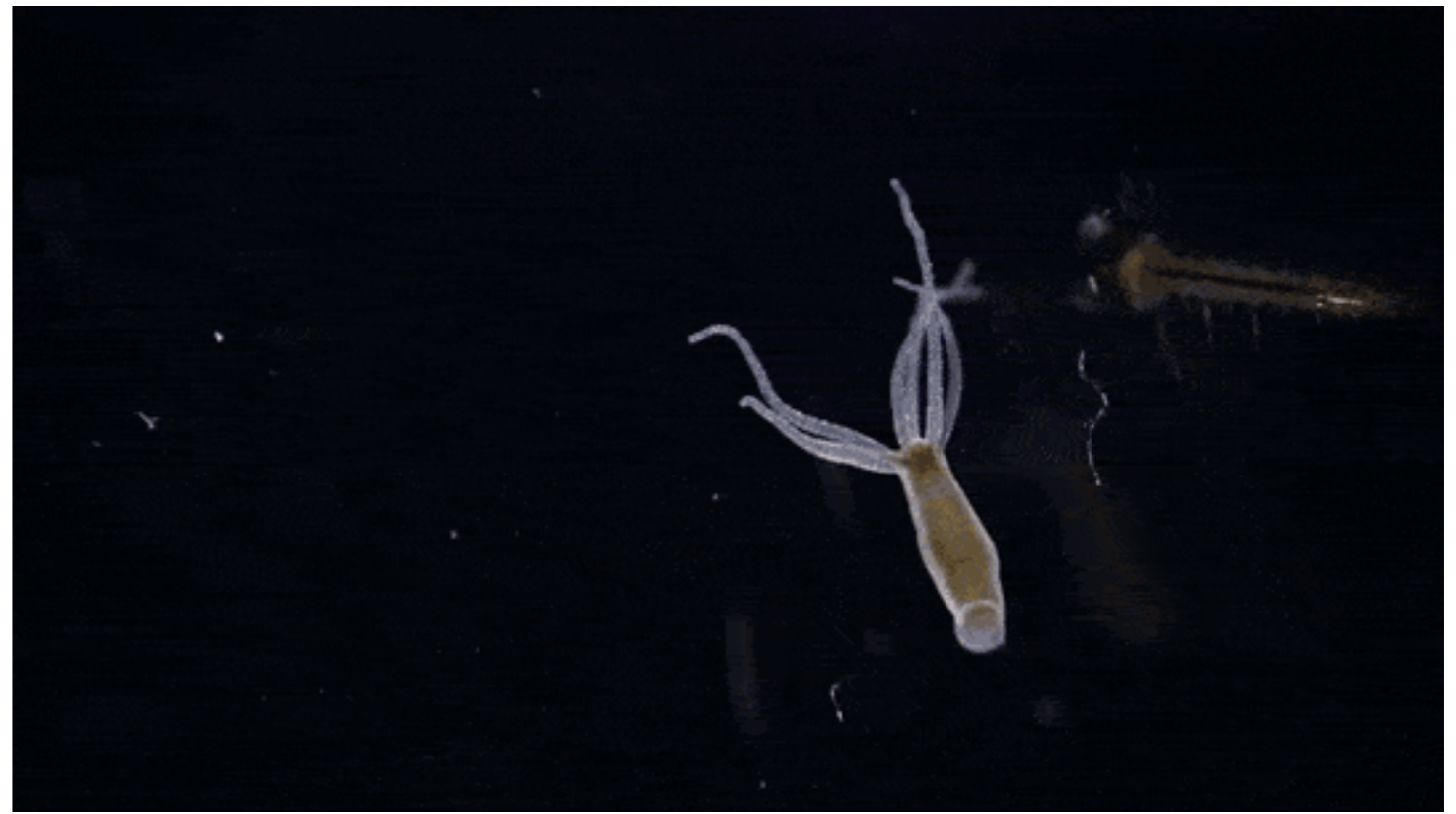




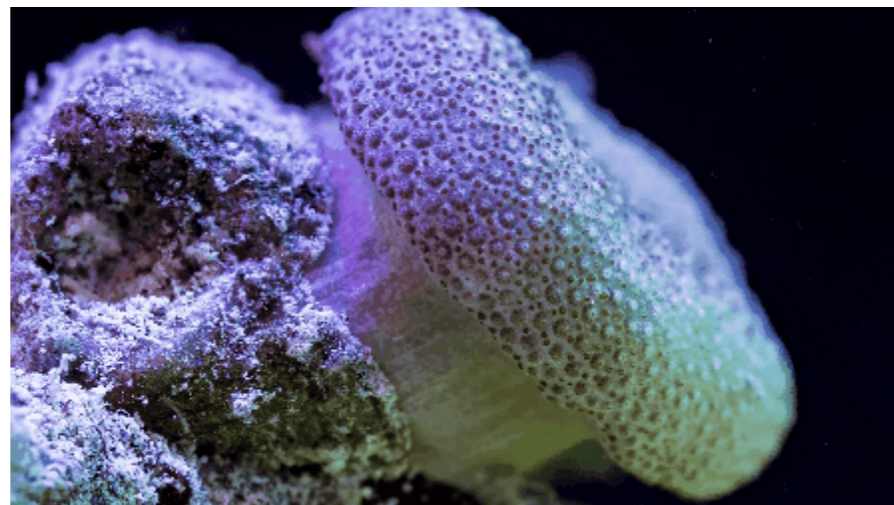
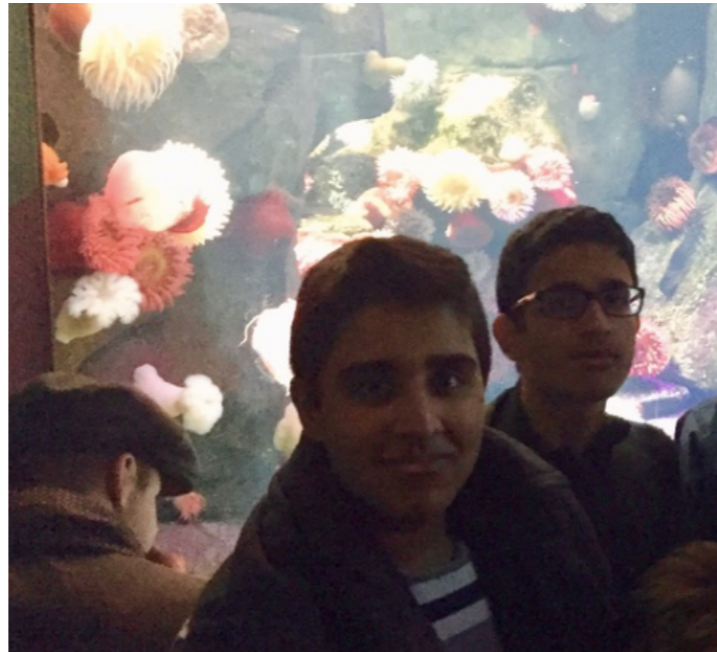
- No organs of system - simple tissues
- No symmetrical
- simple needle like skeletal structure - spicules
- NO MOUTH or anus - pores opening to filter feed
- eg - sponges

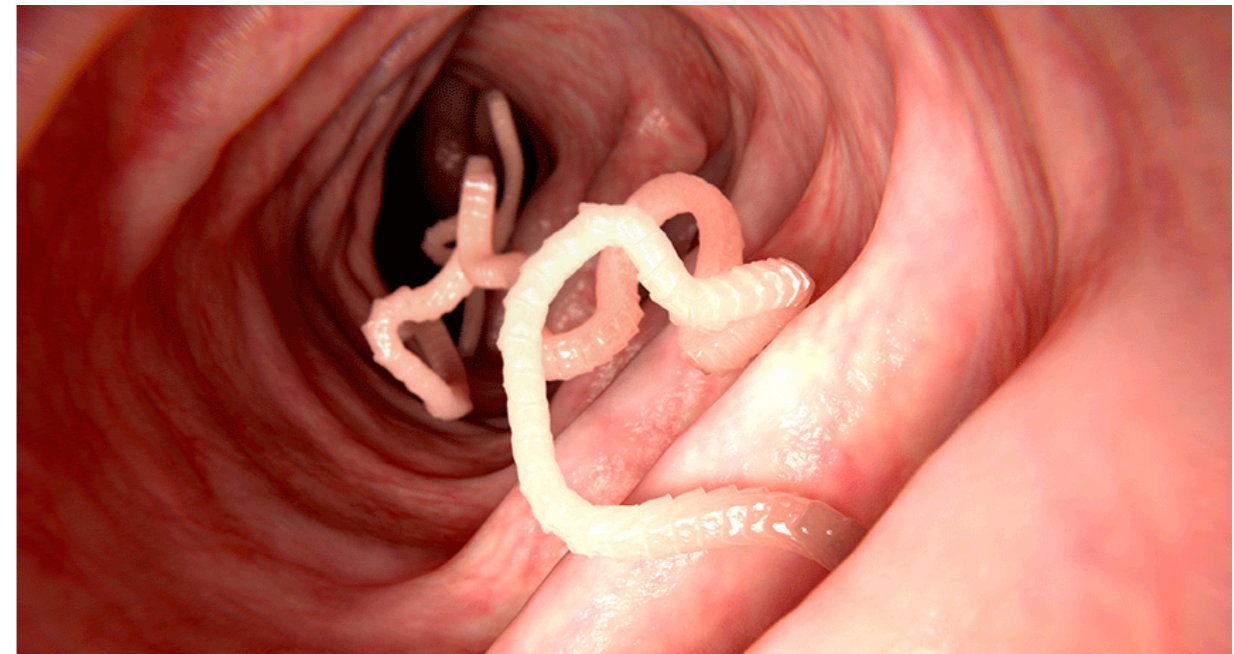


PHYLUM CNIDARIA



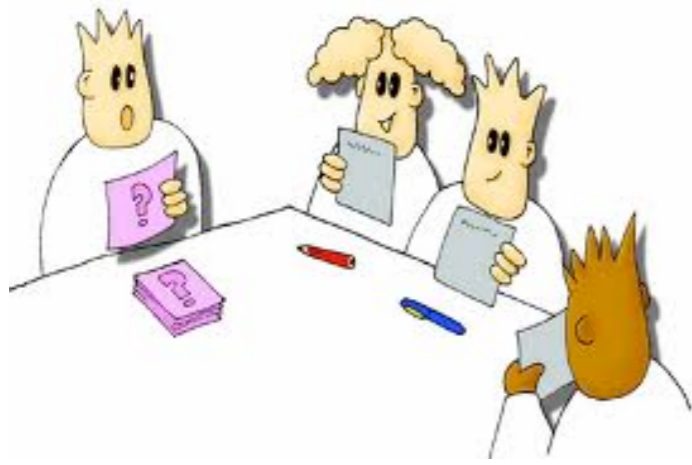
- specialized tissues no organs
- mouth only, no anus
- Most are soft, corals have a CaCO_3 base
- Radial symmetry
- stinging cells on tentacles
- hydra, coral, anemones, and jellyfish



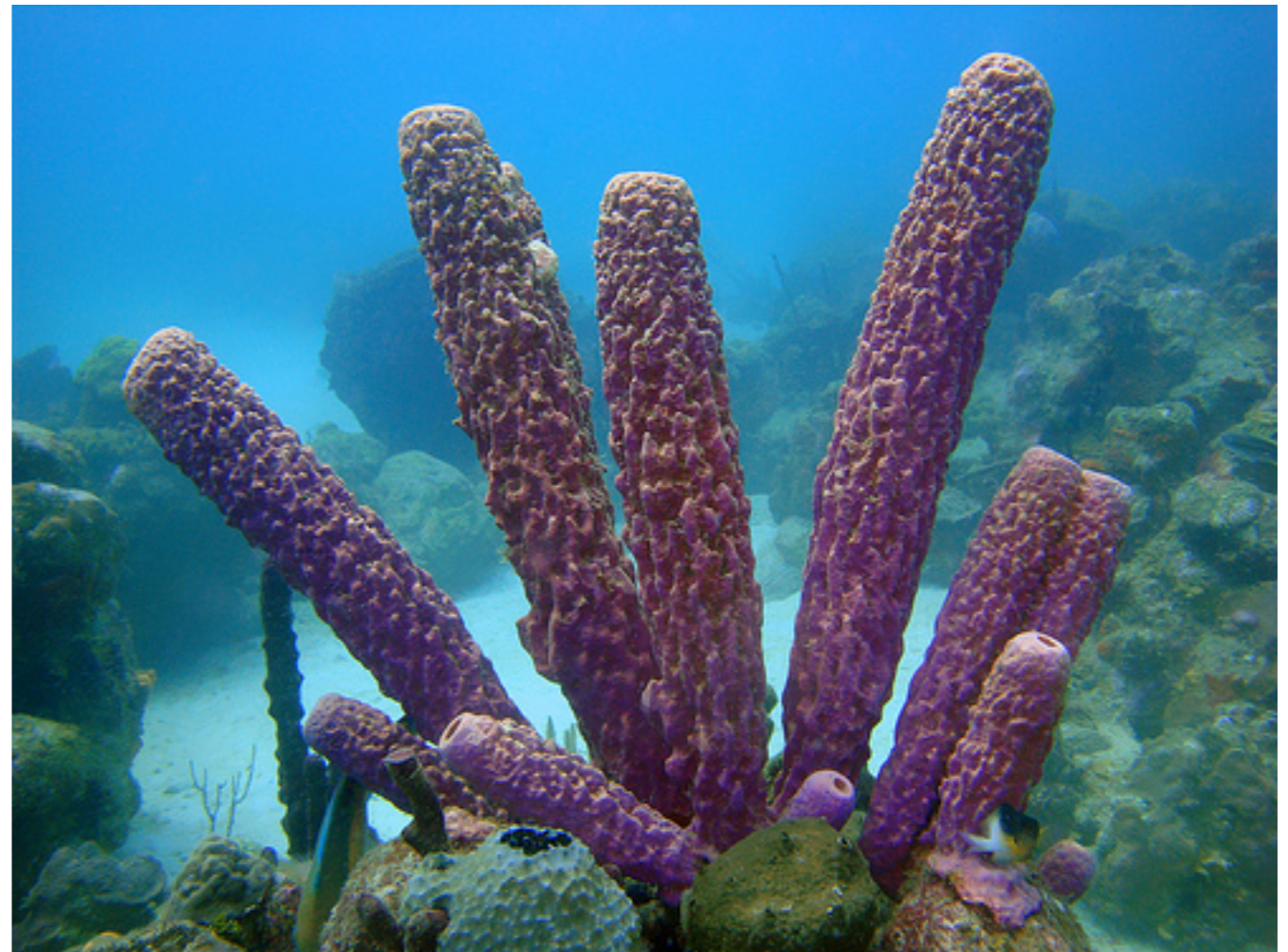


- simple organs and systems
- mouth only, no anus
- Bilateral symmetry
- no skeleton
- flat bodies or ribbon-like
- no respiration or circulation
- flatworms, tapeworms

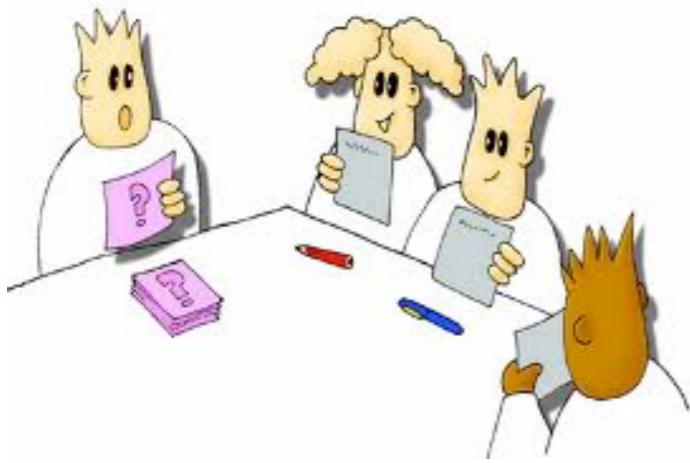


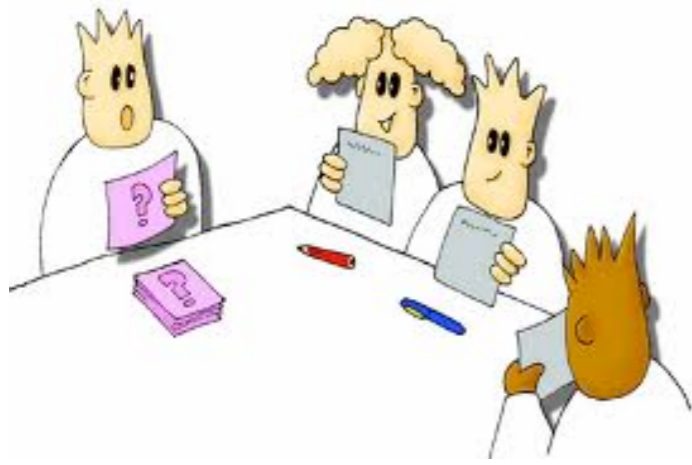


Which Phylum?



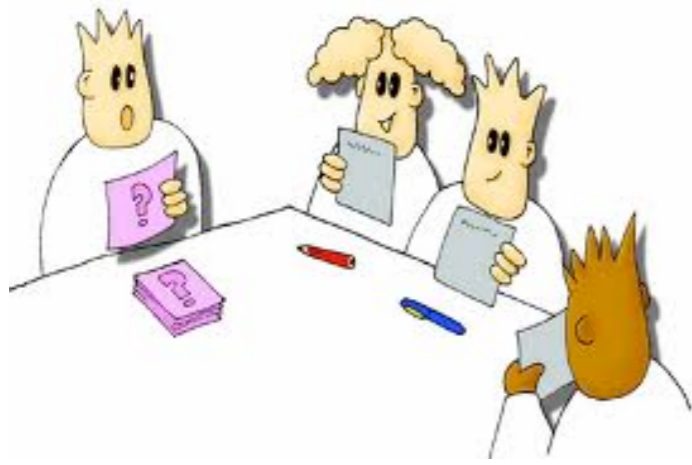
Which Phylum?



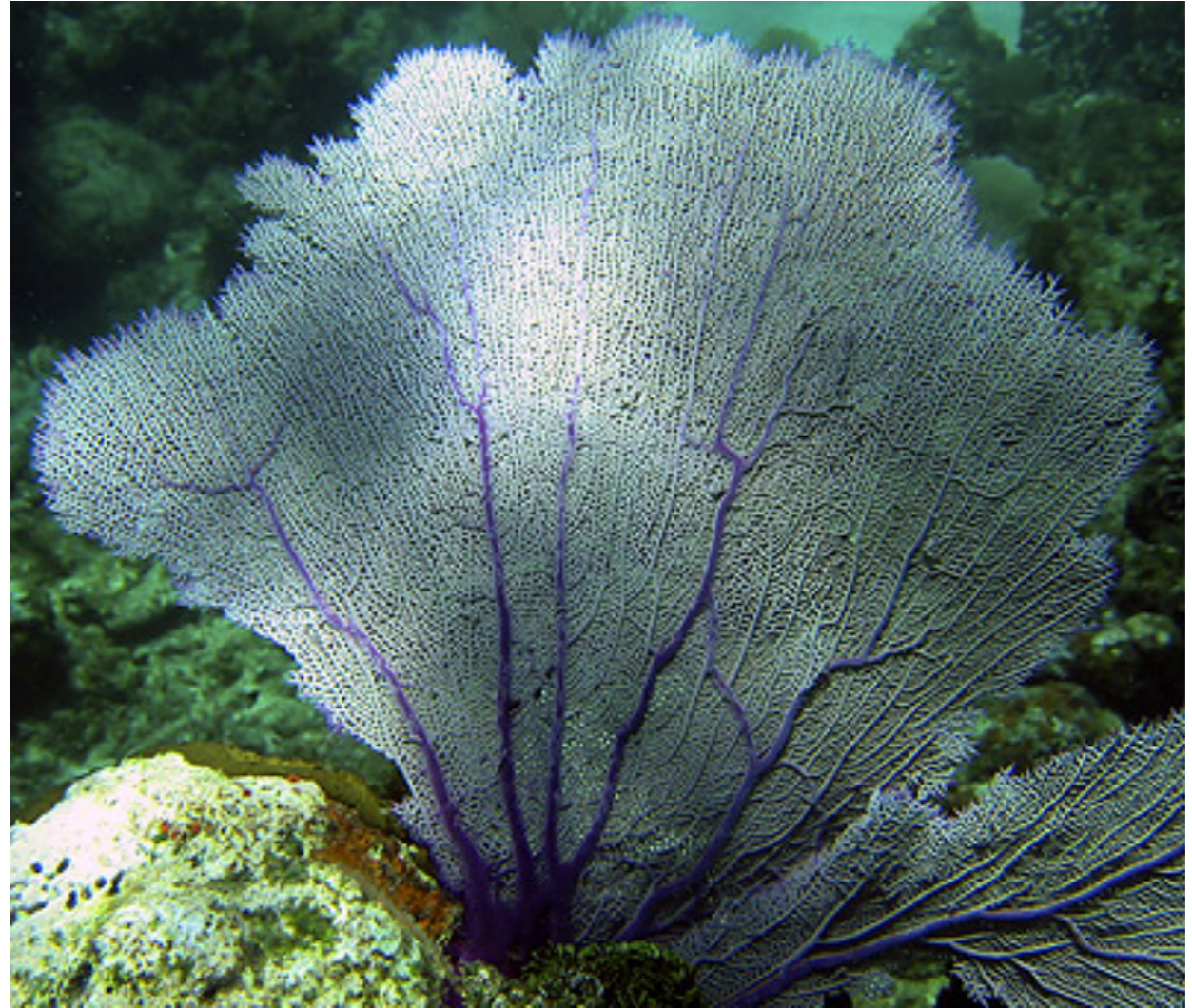


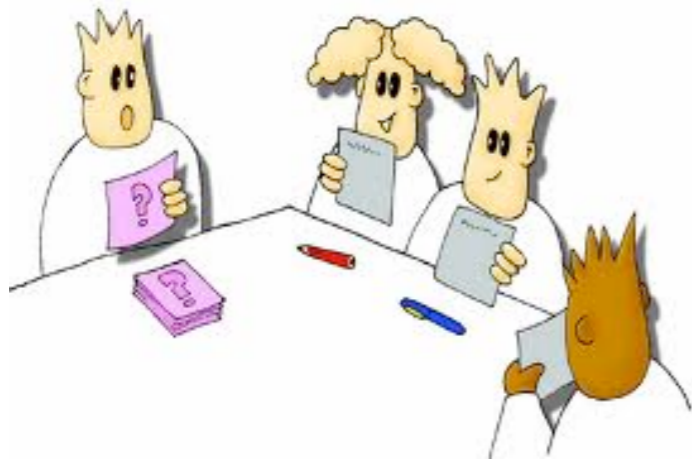
Which Phylum?





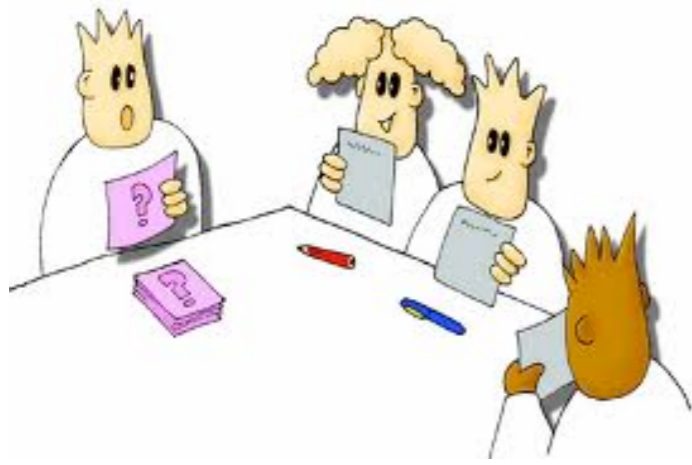
Which Phylum?





Which Phylum?

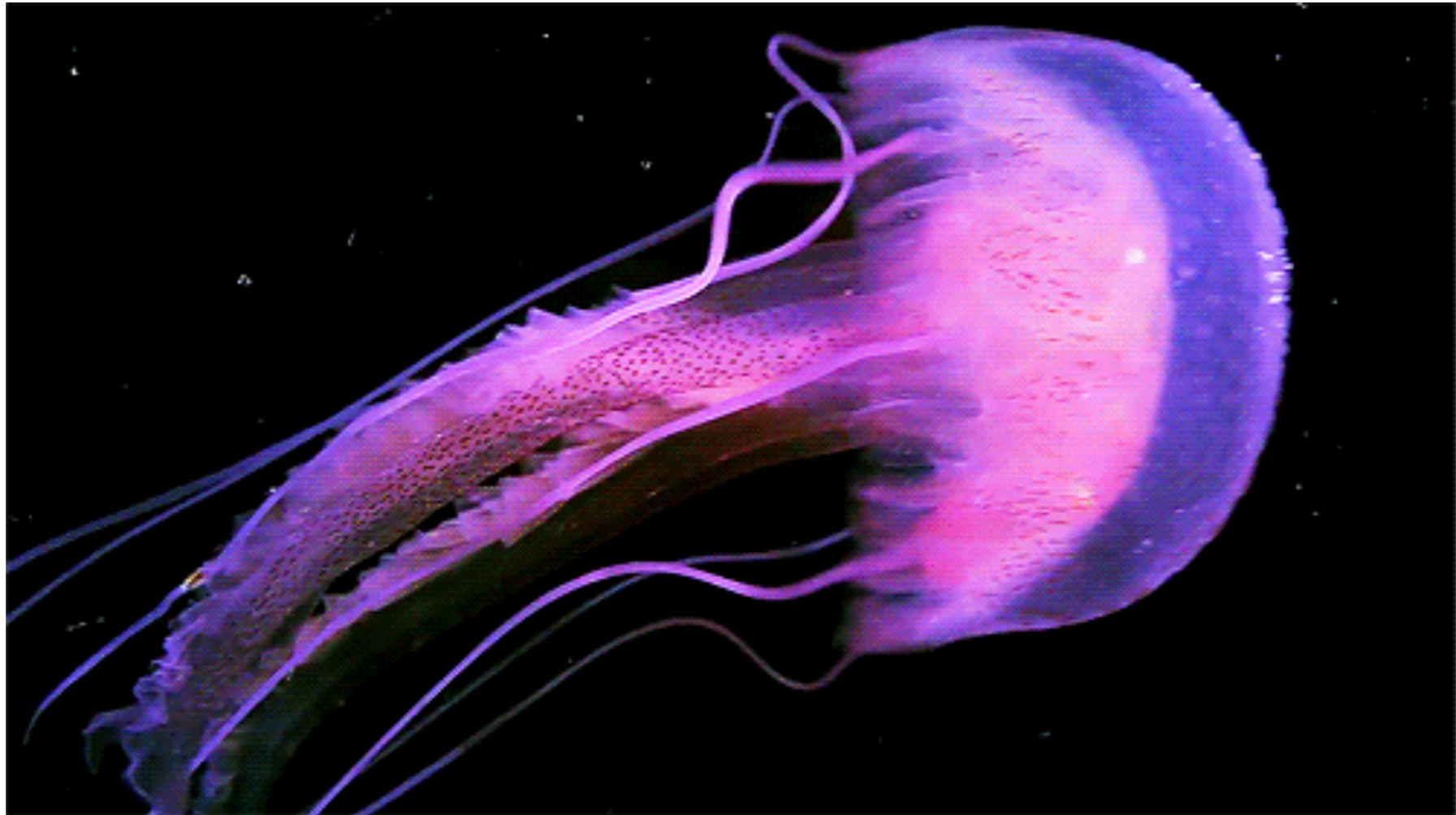
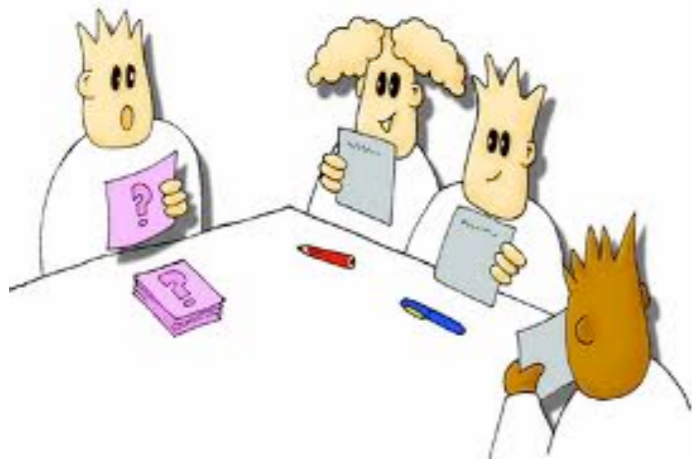




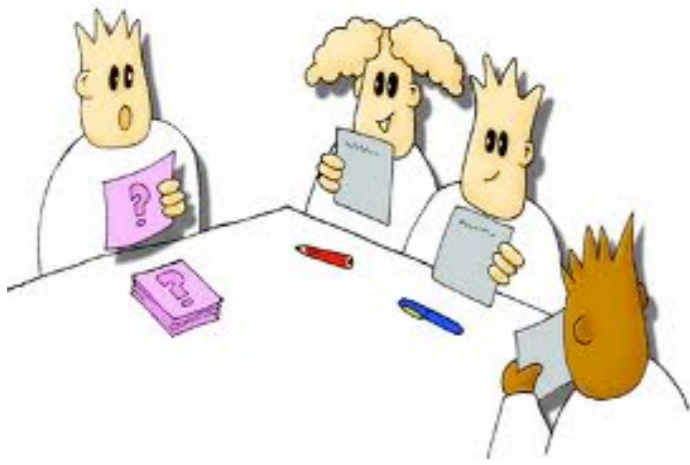
Which Phylum?



Which Phylum?



Which Phylum?



PHYLUM MOLLUSCA



NICKY BAY
PHOTOGRAPHY
<http://gmacre.blogspot.com>

- organs and systems
- mouth and anus
- bilateral symmetry
- have a CaCO_3 shell
- have soft bodies in shells and feeding radula
- snails, squid, octopi, clams



Phylum Annelida

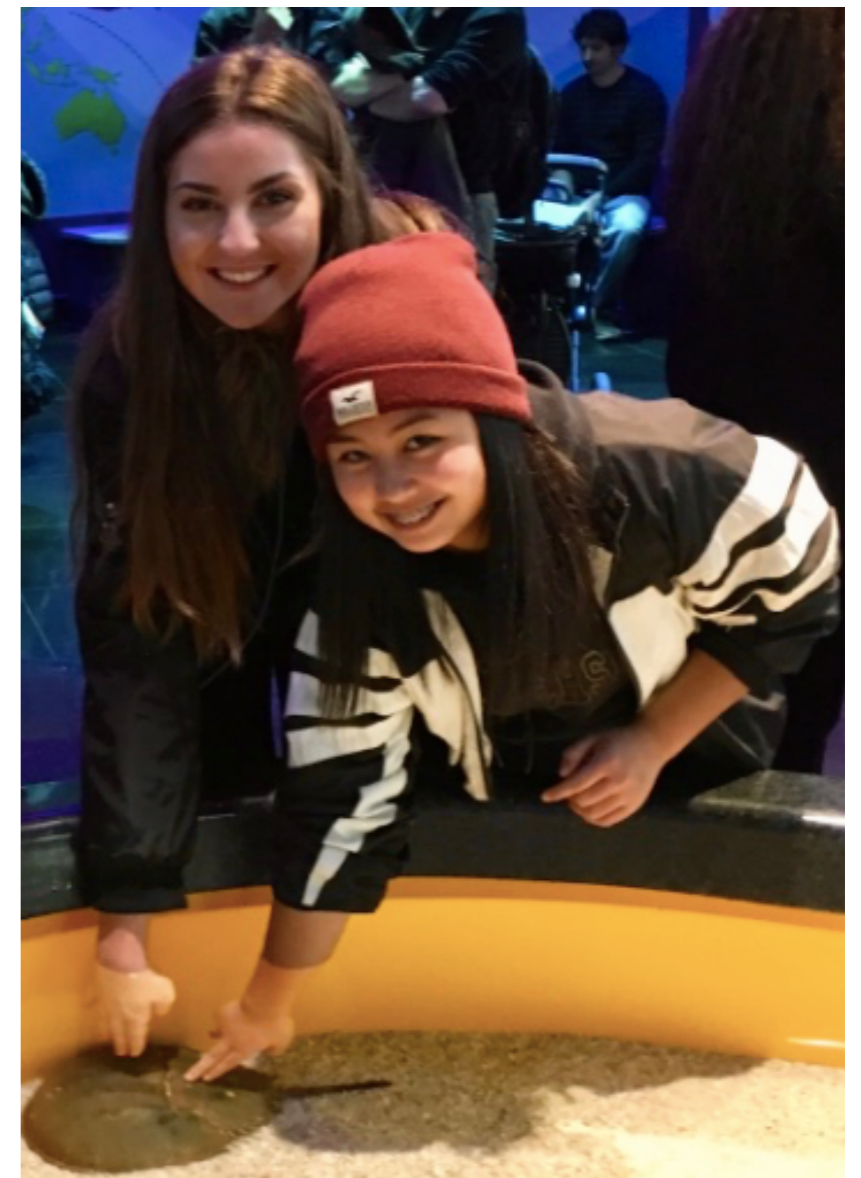


- organs and systems
- mouth and anus
- bilateral symmetry
- soft bodies with internal pressure
- segmented with setae or bristles
- worms (oligochaete), leeches, marine worms





- organs and systems
- mouth and anus
- Bilateral symmetry
- exoskeleton made of **chitin**
- segmented bodies and appendages with joints
- insects, crustaceans (crabs and shrimp), arachnids



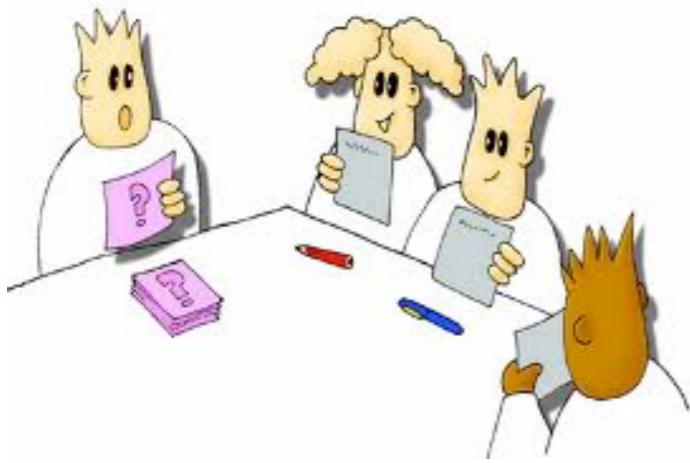
Phylum Chordata

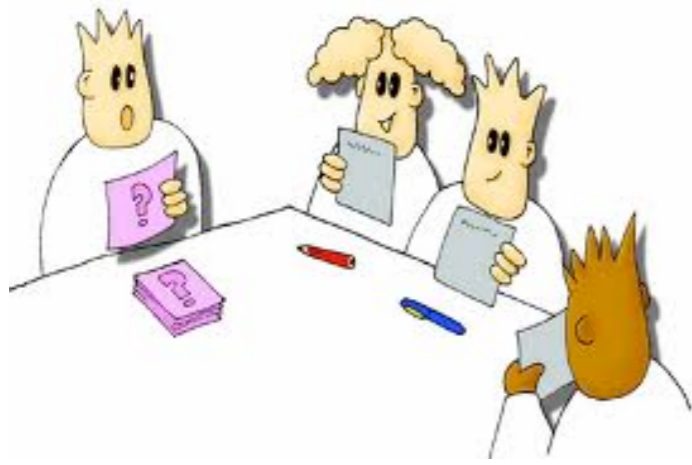


- organs and systems
- mouth and anus
- Bilateral symmetry
- endoskeleton with spinal cord
- Complex organ systems
- Fish, amphibians, reptiles, birds, mammals



Which Phylum?

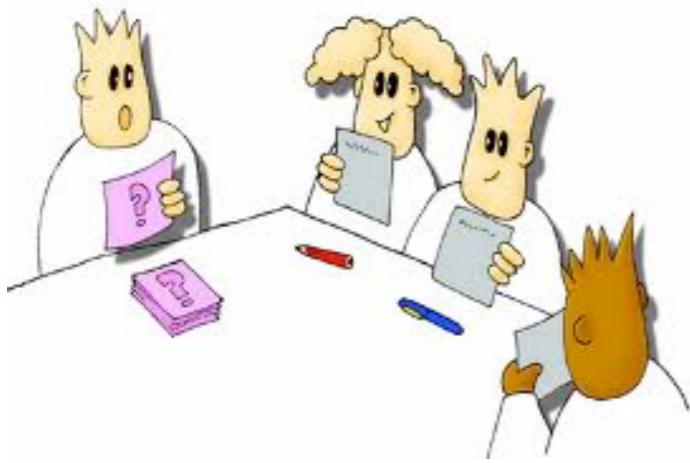




Which Phylum?

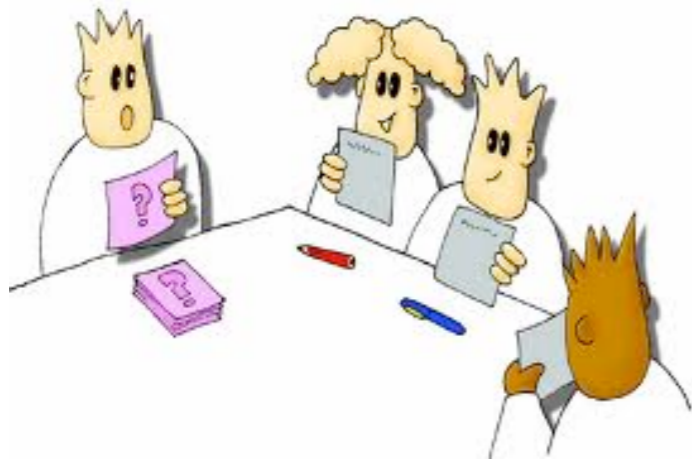


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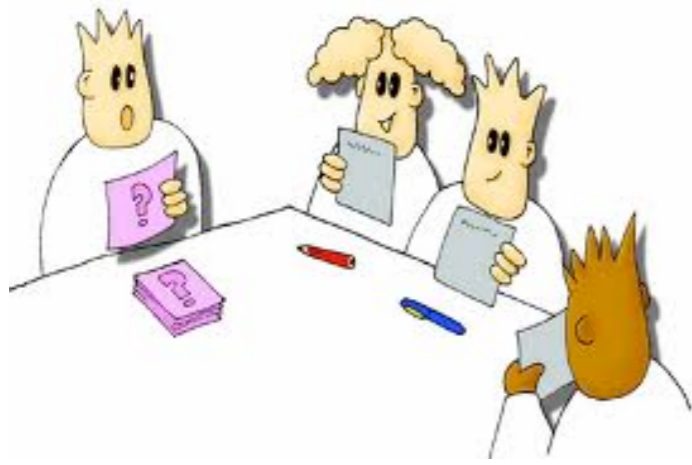
SENORGIF.COM





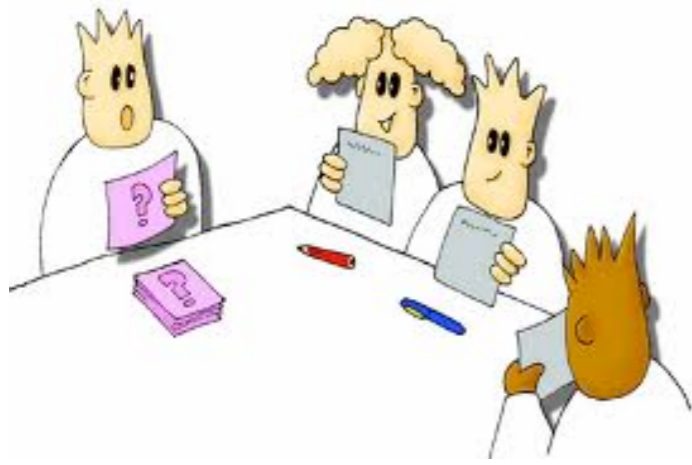
Which Phylum?





Which Phylum?



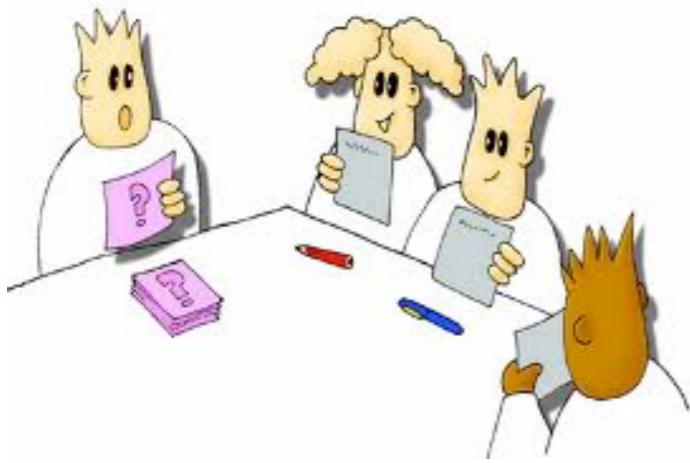


Which Phylum?

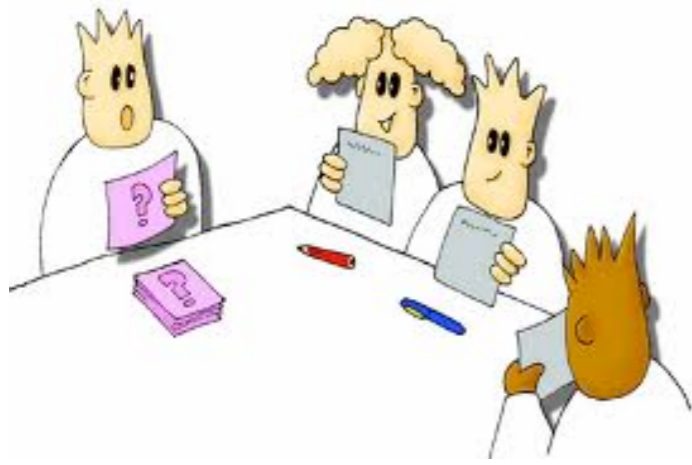




Which Phylum?

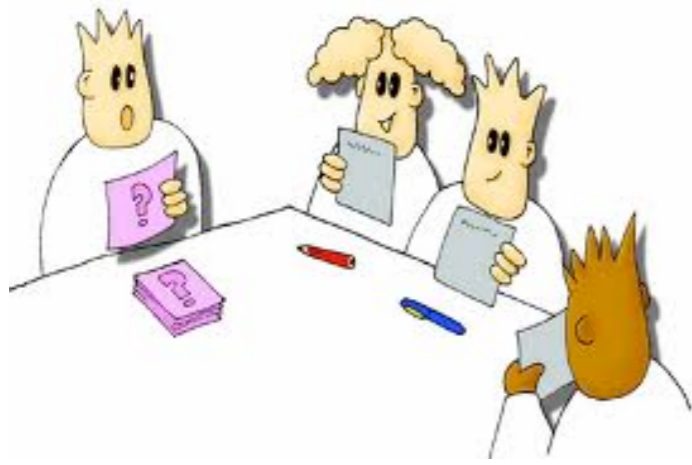






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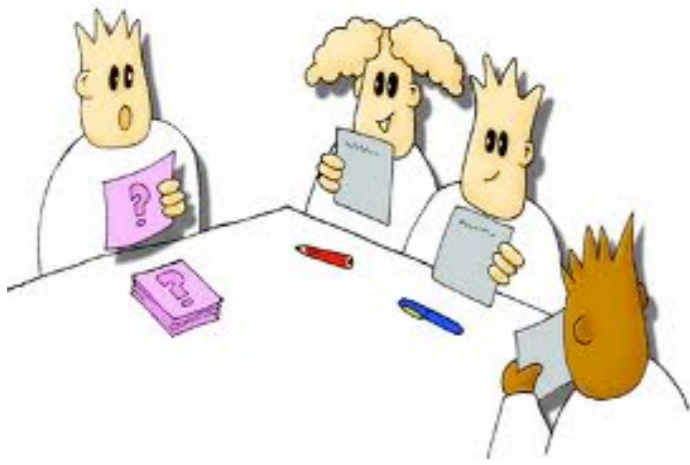




Which Phylum?



Which Phylum?



ASSIGNMENT

- Animal Phylum questions pg. 267
 - Questions on chordata pg 268
1. Compare and contrast fish and amphibians.
 2. Amphibians, reptiles, birds, and mammals all have pentadactyl limbs. Deduce what this means?
 3. Based on the information provide on table 6 of 268, are birds more closely related to mammals or to reptiles? Explain with evidence.
 4. Based on the information, construct dichotomous key of all the phyla of animals