

## **Final Practical Study Guide**

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**Monday 2-3:40pm Zoom password will be given when you sign into the zoom class.**

Reminder, this is for my personal class only\*\*

This is a helpful guide to orient your studying. This by no means is specifically what is on the practical, but I made it to help you understand what you should have absorbed and understood “In lab”.

If you do not remember these things, you should review them. Please review all organisms and characteristics of the organisms that we looked at in your slideshows and ibook. **This is a closed book/note exam.**

### **Chapter 7 material to focus on:**

- Review key terms: examples include... microevolution, natural selection, allele
- review the moth simulation and the pages explaining why the moths changed colors in your ibook!

### **Chapter 8 material to focus on:**

For any given animal from this chapter, be able to identify:

- Body cavity type
- Organ systems and what they do
- Level of organization
- Number of germ layers
- Type of symmetry
- Type of reproduction (sexual, asexual, ect)

#### Phylum Porifera

Recognize a sponge and tell me where they fit on the evolutionary tree, their feeding style, and anatomy

#### Phylum Cnidaria

Recognize organisms from classes Hydrozoa, Scyphozoa, and Anthozoa and tell me about their anatomy and adaptations for feeding (nematocysts)

#### Phylum Platyhelminthes

Recognize platyhelminthes and what organisms they infect and the diseases they cause

### **Chapter 9 material to focus on:**

- Earthworm anatomy (watch earthworm dissection videos): identify mouth, brain, pharynx, hearts, dorsal blood vessel, seminal receptacle, seminal vesicle, crop, gizzard, intestine, anus
- Recognize cross section of an earthworm
- Similarities between Annelida and Nematoda
- Body cavity types
- Recognize pictures of the three classes of annelids
- How do annelids get their segments?
- Recognize pictures of nematodes
- Why is *C. elegans* a good model organism?
- What is ecdysis?
- Female and male cross sections of *Ascaris* and their organs

**Chapter 10 material to focus on:**

- Squid anatomy (watch squid dissection video): mantle, fin, siphon, tentacles, arms, buccal bulb, pen, nidamental gland, gill heart, liver, radula, beak, head, foot, visceral mass, gills, adductor muscles
- Four zones of mollusk bodies
- Why are annelids and mollusks considered close relatives?
- Recognize pictures of species in the classes Gastropoda, Bivalvia, Cephalopoda, and Polyplacophora
- Clam/mussel anatomy (from iBook): umbo, adductor muscles (posterior and anterior), gill, foot, mantle, siphon, visceral mass, gonad

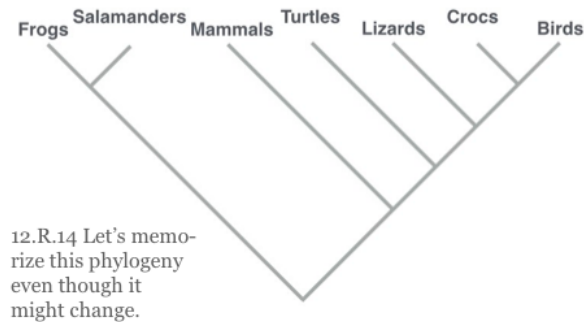
**Chapter 11 material to focus on:**

- Crayfish anatomy: cephalothorax, carapace, gill chambers, rostrum, abdomen, telson, tergum, sternum, uropods, swimmerets/copulatory organs (can you identify male and female crayfish?), chelipeds, antennae (antennules and second antenna), gills, heart, gonads
- What kind of circulatory system do arthropods have?
- What is the evolutionary relationship between insects, crustaceans, arachnids, horseshoe crabs, and centipedes/millipedes? (Hint: draw a tree)
- What make up the classes Insecta, Malacostraca, and Arachnida?
- What are the four features of the arthropod body plan?
  - Exoskeleton/chitin/ecdysis/instar
  - What are the tagmata in insects and other arthropods?
  - How did arthropods get their name?
  - What is cephalization?
- What is the difference between chelicerae, pedipalps, and walking legs?
- Identify the telson and book gills in a horseshoe crab
- Recognize images of crustaceans and define biramous
- Recognize images of insects and define uniramous
- What are the three types of metamorphosis in insects?
- Use the lecture video to understand how to use a key
- What are Bayesian and Mullerian mimicry?

**Chapter 12 material to focus on:**

- Define deuterostome and protostome development:
  - What are the differences between the two methods of development?
  - What organisms are examples of these types of development?
- Know the phylum and class for sea stars and sea urchins
- What are the four synapomorphies for species in the phylum Chordata?
- Recognize images and key traits for the following:
  - Subphylum Cephalochordata: lancelets
  - Subphylum Vertebrata
    - Actinopterygii: ray-finned fishes (mostly Teleosts)
    - Tetrapods:
      - Amphibians

- Amniotes:
  - Mammals
  - Turtles
- Lepidosaurs (Lizards and Snakes)
  - Crocodiles
  - Birds



- Define ectothermic, endothermic, homeothermic, and poikilothermic, and give an example of an organism of each type
- Why did we conduct the fish choice experiment? What were the methods? What was the outcome?

### Chapter 13 materials to focus on:

- Know these five phyla and representative organisms from each, and be able to draw the phylogenetic tree:
  - 'Chytridiomycota': chytrids
  - 'Zygomycota' (e.g., Rhizopus)
  - Glomeromycota: arbuscular fungi
  - Basidiomycota (e.g., Coprinopsis)
  - Ascomycota (e.g., Aspergillus)
- **Fungi in ecological systems:**
  - Know the role that fungi play in their ecosystems, some examples of parasitic and mutualistic fungi
- **Lichens:**
  - Know the organisms that make up the lichen mutualism and lichen's role in ecology
- **Life cycles:**
  - Be able to recognize (don't need to draw) the fungal phylum from its life cycle (Rhizopus and Basidiomycota)

Good luck studying!