Review sheet for the material covered since exam III

The usual WARNING: I have tried to be complete, but I may have missed something. You are responsible for all the material discussed in class. This is only a guide.

I. Monera, Protists & Fungi

What are heterotrophs? Autotrophs? What are the main types of prokaryotes? What shapes do they have?

What is so interesting about archaea? Where do they live?

Why are prokaryotes so useful? Beneficial? (There are several items here). What are cyanobacteria? What harm can bacteria cause? How do they harm people? Know some diseases that bacteria can cause.

What are the main groups within the Protists? How do protozoa move? How do they gain energy? Are any protozoas pathogens (disease causing)?

What are slime molds? How big can they get? What do they eat?

Why are fungi not considered plants? What are hyphae? What is Mycelium? What are “mushrooms”? How does a fungus feed?

What are lichens? (Know the details as presented in class).

What are fungi used for? What damage can fungi cause?

II. Animals I (invertebrates)

Porifera: what are sponges? Where do they live? What size & shape are they? What do they eat? what are their major characteristics? What is the osculum? What are choanocytes? amoebocytes? pores? What are some uses for sponges?

Cnidaria: How many species are there? Where do they live? What are their major characteristics? What kind of gut do they have? What is a polyp? Medusa? What are cnidocytes? What are cnidocytes used for? Do Cnidarians have muscles? Nerves? How many classes are they divided into? Are any of them dangerous?

Platyhelminthes: How many species are there? What kind of symmetry do they have? Why are they called flatworms? Do they have distinct organs? Are any organ systems missing? How many classes are there? What is shistosomiasis? Are there any parasites in the United States? What are tape worms?

Nematodes: How many species are there? What do they look like? What are the main characteristics? What kind of muscles do they have? Other organs? What is a cuticle? How common are nematodes? What are some parasites that are found in this group?

Annelida: How many species are there? What is a segmented worm? What kinds of animals
are found in this group? What kinds of organs can be found in this group? What is a metanephridium? What is a hermaphrodite? What are the major classes? Who was an expert in this group? What are leeches being used for once again?

Molluska: How many species are there? What is common to all mollusks? What is a foot? A mantle? A visceral mass? Do all of them have a shell? What is a radula? What are the most intelligent invertebrates? How many classes are there? Are any of these deadly?

Arthropoda: How many species are there? (Note that this is the single most successful group of animals on the planet!). What are the major characteristics of Arthropods? What are they major subphyla? Are any extinct? Know some examples of each of the subphyla. What use are insects? What harm can they do?

Echinoderma: How many species are there? What are the major characteristics? Where are they found? What is a water vascular system? What kind of skeleton do they have? Which phylum are they most closely related to? How many classes are there?

III. Phylum Chorata (with two exceptions, Vertebrates)

What are they major characteristics of vertebrates? How many species are there?

Class Agnatha - What are they? What do they look like? What are some major characteristics of this class? What does “Agnatha” refer to?

Class Chondrichtyes - What are the major characteristics? What is their skeleton made out of? What's unique about their teeth. What do most (not all) sharks eat? What about rays and skates? Do they all lay eggs? What special senses do they have?

Class Osteichtyes - How do these fish differ from the previous class? What is an air sac? What are the two main groups of Osteichtyes? Which group did terrestrial animals arise from? Which is the more successful group?

Class Amphibia - What ties these animals to the water? What are the orders in this class? What is metamorphosis? What are poison glands?

Class Reptilia - What allowed these to finally make the break from water all together? What are the orders in this class (comment: you should realize that many folks have re-classified some of these). What does “cold-blooded” (ectothermic) mean?

“Class” Dinosauria - Where were these alive? What were some of the characteristics of this group? What is endothermy? What behaviors do we think they exhibited? How advanced were they? What is the best explanation for their extinction?

Class Aves - Where did they come from? Why do some folks say dinosaurs never died out? What are some of the features found in birds? What adaptations do they have for flight?

Class Mammalia - What are they main features of mammals? What feature are “mammals” named after? What about their teeth? What kind of birth do they have (except for three species)? What are the two subclasses? What about the mammals that lay eggs? What two
What infraclasses make up the subclass Theria? What is different about marsupials? What kind of placenta do they have? Where are they found? How many orders make up the Infraclass Eutheria? What are some examples of these orders?

What about the marsupial radiation in Australia? What did marsupials adapt to?