Bio I
EOC Review #5: Evolution, Classification, and Six Kingdoms

Evolution
1. Jean Baptiste Lamarck created the Theory of Use and Disuse. Explain this theory.
2. Who developed the modern theory of evolution?
3. Explain Darwin's idea of natural selection using the four main points (a-d). (pg. 393)
4. How can the term's mimicry and camouflage be related to natural selection? (pg. 398))
5. How did Thomas Malthus and Alfred Russell Wallace help Darwin with his theory?
6. What is the difference between homologous, analogous, and vestigial structures? Provide an example of each. (pg. 400)
7. Explain the terms convergent and divergent evolution. Relate them to the terms above. (pg. 412)
8. Explain the three types of selection. Provide examples of each. (pg. 408)
9. Explain the following terms: gene pool, gene frequency, allele frequency. (pgs. 404)
    - pg. 418 - Understanding Main Concepts #5-9 (ANSWERS: c,c,d,b,d)
    - pg. 419 – End-of-Course Test Practice #18-22 (ANSWERS: c,a,c,b,a)

Classification
1. Who was known as the father of taxonomy? What is taxonomy? (pg. 444)
2. List Linneaus's seven levels of taxonomic organization? (pg. 449)
3. Differentiate between the following terms: cladistics, phylogeny. (pg. 452)
4. What is binomial nomenclature? What are the rules applied to writing an organisms name utilizing binomial nomenclature? (pg. 444)
5. Using the dichotomous key below, identify worm #1-4.

6. Fill in the chart with the appropriate information.

Kingdom	Prokaryotic/ Eukaryotic	Unicellular/ Multicellular	Autotroph/ Heterotroph	Example

- pg. 464 – Understanding Main Concepts #6-11 (ANSWERS: d,b,d,c,a,c)
- pg. 465 –End-of-Course Test Practice #18-23 (ANSWERS: b,d,c,c,b,d)
- pg. 470 – Standardized Test Practice #1-13 (ANSWERS: b,c,d,a,c,d,a,c,c,b,a,d,d)

Viruses
1. What are the two basic components of a virus? (pg. 476)
2. What is the difference between the lytic and lysogenic cycle of a bacteriophage? (pg. 478)
3. How is a retrovirus different than other viruses? What special enzyme do they possess? (pg. 481)
4. There are many debates over whether viruses are living or nonliving organisms. Explain this statement. (pg. 475)
    - pg. 500 – Understanding Main Concept #6-9 (ANSWERS: d,c,c,b)
    - pg. 501 – End-of-Course Practice #19-20 (ANSWERS: a,b)

Bacteria
1. What two kingdoms host bacteria? What is the difference between these two? (pg. 484)
2. What are the three basic shapes of bacteria? Be sure to use the appropriate names. (pg. 489)
3. Explain the structure of bacteria. Be sure to include the following: cell wall, flagella, pilus, and capsule. (pg. 487)
4. Give the two types of reproduction in bacterial (asexual and sexual). (pg. 489)
    - pg. 500 - Understanding Main Concepts #10-14 (ANSWERS: d,a,d,d,a)
    - pg. 501 – End-of-Course Practice #22-24 (ANSWERS: b,a,c)

Protists

1. Fill in the chart with the appropriate information. (pgs. 502)

Organism	Animal-like/Plant-like	Means of Movement	Special Characteristics
Amobea			
Euglena			
Dinoflagellate			
Paramecium			
Diatom			
Algae			
Sporozoa			

- pg. 526 - Understanding Main Concepts #6-16 (ANSWERS: a,c,a,b,d,b,b,a,c,b,d)
- pg. 527 – End-of-Course Test Practice #22-25 (ANSWERS: b,a,d,a)

Fungus

1. What are the two predominant structures in fungus? What are these structures made up of? (pg.530)
2. What are the three main ways in which fungus feed? (pg. 531)
3. Describe two ways in which fungus can reproduce? (pg. 532)
4. Explain the symbiotic relationship found in lichen (pg. 542)
   - pg. 548 – Understanding Main Concepts #6,7,10,13 (ANSWERS: c,b,c,a)
   - pg. 554 – Standardized Test Practice #1-13, 15 (ANSWERS: b,a,c,a,a,b,d,b,c,a,c,a,d,a)

Plants

1. List the adaptations that plants must have made from their transition from water to land. (pg. 559)
2. Describe the process of alternation of generations. Be sure to include which stage is haploid or diploid and when meiosis or mitosis is occurring. (pg. 562)
3. What is the difference between a nonvascular and vascular plant? (pgs. 608)
   - pg. 574 - Understanding Main Concepts #6-12 (ANSWERS: a,c,c,d,d,a,d)
   - pg. 575 – End-of-Course Test Practice #18-22 (ANSWERS: c,c,a,b,c,a,b,c)
   - pg. 631 – End-of-Course Test Practice #17-20 (ANSWERS: a,c,a,c)
   - pg. 663 – End-of-Course Test Practice #19-24 (ANSWERS: b,d,a,d,a)
   - pg. 668 - Standardized Test Practice #1-8 (ANSWERS: d,b,c,a,c,a,a,a)
4. Complete the chart below by placing the appropriate information in the columns for each division of plant. Place a check in the appropriate column.

Division	Vascular	Nonvascular	Non-Seed Plants	Seed in Fruits	Seeds in Cones	Dominant Generation: Sporophyte/ Gametophyte
Liverworts						
Mosses						
Ferns						
Gymnosperms						
Angiosperms						

Animals

Review this section by attaching the two charts completed in class on Invertebrates and Vertebrates to this study guide. I would also recommend reading the Biodigest on pages 782-787 for Invertebrates and pages 880-887 for Vertebrates.

- pg. 690 – Understanding Main Concepts #7,9,10 (ANSWERS: b,a,b)
- pg. 691 - End-of-Course Test Practice #18-23 (ANSWERS: b,c,d,c,a,b)
- pg. 719 – End-of-Course Test Practice #15-19 (ANSWERS: c,a,c,a,b)
- pg. 739 – End-of-Course Test Practice #19-22 (ANSWERS: b,d,a,a)
- pg. 761 – End-of-Course Test Practice #20-24 (ANSWERS: b,b,a,b,d)
- pg. 781 – End-of-Course Test Practice #16-19 (ANSWERS: b,a,c,b)
- pg. 814 – Understanding Main Concepts #5-8 (ANSWERS: c,a,a,a)
- pg. 815 – End-of-Course Test Practice #17-10 (ANSWERS: b,c,a,c)
- pg. 839 – End-of-Course Test Practice #17-19 (ANSWERS: a,b,d)
- pg. 856 – Understanding Main Concepts #6-13 (ANSWERS: b,a,d,c,a,a,b,b)
- pg. 857 – End-of-Course Test Practice #19-21 (ANSWERS: a,c,b)
- pg. 888 – Standardized Test Practice #1-10 (ANSWERS: c,c,d,a,b,b,d,b,a,d)