

Bio I

EOC Review #1: (Scientific Method, Characteristics of Life, Biochemistry, and Ecology)

Scientific Method/Characteristics of Life

1. What are the characteristics of life? (pg.6)
2. List and explain the steps of the scientific method. (pg. 11)
3. Be familiar with the following terms: control, dependent variable, independent variable
4. What is the difference between qualitative and quantitative data? (pg. 21)
 - pg. 28 - Answer the multiple choice questions for review #6-9
ANSWERS: b, d, b, d
 - pg. 29 – End-of-Course Test Practice #15-20
ANSWERS: b,d,c,b,a,b
 - BIODIGEST - pg. 30 (read for a short review and answer the multiple-choice questions)
ANSWERS: c,b,c,b,a,b,c,b

Chemistry/Biochemistry

- Review basic chemistry on pages 141-151
1. What are the six basic element of life?
 2. Explain the structure of carbohydrates. What is the function of carbohydrates?
 3. List and explain three types of carbohydrates and provide an example of each. (pg. 158-159)
 4. Explain the structure of lipids. How is it different from carbohydrates? What is the function of a lipid? (pg. 160)
 5. When washing dishes one evening, one particular bowl is difficult to clean. You realize that your mother had melted some butter in the dish. Explain this difficulty through discussing the relationship between water and lipids. (pg. 160)
 6. Explain the structure of a protein. What is the function of proteins? (pg. 160-161)
 7. Relate the following words to each other: peptide bond, protein, enzyme, and amino acid.
 8. Explain the structure of a nucleic acid. What is the function of a nucleic acid? (pg. 163)
 - pg. 168 - Answer the multiple choice questions for review #5-13
ANSWERS: c,d,d,c,d,d,b,b,b
 - pg. 169 – End-of-Course Test Practice #19-23
ANSWERS: d,c,a,a,b

Ecology

1. What is ecology? (pg. 36)
2. What is the difference between abiotic and biotic factors? Give examples of both. (pg. 37)
3. List and explain the levels of organization within the environment. (pg. 38)
4. Explain the following terms: habitat and niche. (pg. 42)
5. What is the difference between primary and secondary succession? Be sure to include the following terms: pioneer species and climax community) (pg. 67)
6. Explain the following relationships and provide an example for each: parasitism, commensalism, and mutualism. (pg. 44)
7. Understand and be able to apply the following terms appropriately: producer, autotroph, heterotroph, primary consumer, secondary consumer, tertiary consumer, quaternary consumer, detritivore, decomposer, herbivore, carnivore, omnivore, and all of the trophic levels. (pg. 46) Relate these terms to the food web on page 51.
8. What is the maximum amount of trophic levels an ecosystem? Explain.
9. What is the difference between a food chain and food web? (pgs. 50)
10. Explain the following: pyramid of energy, numbers, biomass. (pg 51)
11. What is the difference between energy and nutrients in the environment?
12. Water cycle: Be familiar with the components of this cycle. (pg. 53)
13. Carbon cycle: Be familiar with the components of this cycle. (pg. 54)
14. Nitrogen cycle: Be familiar with the components of this cycle. How is this cycle different from the rest? (pg. 56)
15. Phosphorus cycle: Be familiar with the components of this cycle. How is this cycle different from the rest? (pg. 56)
16. Population growth can be modeled with a J-shaped graph or a S-shaped graph. What is the difference between these two? Be sure to include the following terms: carrying capacity, beginning growth, rapid growth, leveling off, and fluctuations. (Not all terms will apply to both graphs) (pg. 91)

17. What is the difference between density-dependent factors and density-independent factors? Provide examples of each. (pg. 96)
18. What is demography? (pg. 100)
19. List four factors that can cause a change in the population.
- pg. 62 - Answer multiple choice questions for review #6-9
ANSWERS: a,d,a,b
 - pg. 63 – End-of-Course Test Practice #17-22
ANSWERS: b,d,c,a,c,a
 - pg. 108 - Answer multiple choice questions for review #6-9
ANSWERS: c,d,c,c
 - pg. 109 – End-of-Course Test Practice #17-20
ANSWERS: d,c,c,a
 - BIODIGEST: pg. 132 - Read for a short review of the section. Answer the multiple choice questions #1-13 for practice.
ANSWERS: b,a,b,c,a,a,d,b,c,b,d,c,c