

Sharyland ISD Study Guide

Biology Semester 2



Student Name: _____

Student ID: _____

Review for Biology 2 – Credit by Exam

In order to be successful in passing the Biology Credit by exam it is recommended that you spend some time working and studying on this review. The following sources can help you review for the exam and answer these questions:

Amoeba sisters Videos: <https://www.youtube.com/user/AmoebaSisters>

Online textbook: <http://my.hrw.com>

Username: sones88

Password: sharylandisd101

Chapter 8: From DNA to Proteins

- Identify the components of DNA and its structure
 - Describe how information for specifying traits of an organism is carried in the DNA
 - Define the leading and the lagging strand and the enzymes involved. (What enzyme unwinds the DNA? What enzyme adds bases? Etc...)
- Explain the purpose and process of DNA replication
- Explain the purpose and process of transcription.
 - What is produced?
 - What is the function of mRNA?
 - What is the enzyme that adds RNA base pairs?
- Explain the purpose and process of translation.
 - What is produced?
 - What is the function of rRNA? tRNA?
 - What do you call a triplet of mRNA?
 - Be able to read a codon chart and identify amino acids that are made.
- Identify and illustrate changes in DNA and evaluate the significance of these changes.
 - Define: mutation, point mutation, frameshift mutation, mutagen

Chapter 10: Principles of Evolution

- Who is the father of evolution?
- Define: evolution, species, fossil, adaptation, variation, artificial selection, natural selection, fitness, population.
- What does natural selection need to occur?
- Know the difference between homologous structures, analogous structures and vestigial structures.

Section 11.3: Other Mechanisms of Evolution

- Define: gene flow, genetic drift, bottleneck effect, sexual selection

Chapter 17: The tree of life (Classification)

- Know the taxonomic groups and the order they are in (Dear King Phillip Came Over For Good Soup)
- Define: taxonomy, taxon, binomial nomenclature, genus, species, phylogeny, cladogram,
- What is the advantage to scientific naming?
- What two groups is a scientific name made of?
- Identify and define the three domains.
 - Which domain is known to live in extreme condition?
- What are the six kingdoms?

Chapter 13: Principles of Ecology

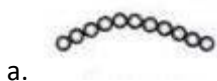
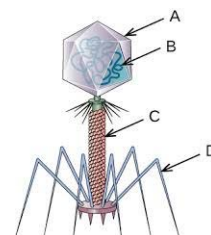
- Define: ecology, community, ecosystem.
- Give examples of Biotic and Abiotic factors.
- Define: producer, autotroph, consumer, heterotroph, chemosynthesis
- Be able to analyze the flow of energy and matter in different models, including food chains, food webs and ecological pyramids.
- Define: food chain, carnivore, herbivore, detritivore, decomposer, trophic level, food web, omnivore
- Be able to describe the flow of matter through the carbon and nitrogen cycle (Nitrogen fixation)
- What happens to the energy as you go from one trophic level to the next higher trophic level?

Chapter 14: Interactions in Ecosystems (Ecology cont.)

- Know the difference between habitat and niche.
- Define and interpret relationships including predation, commensalism, mutualism, parasitism, competition, and symbiosis.
- Define: Carrying capacity, density-dependent factors, primary succession, secondary succession, pioneer species.

Chapter 18: Viruses and Prokaryotes

- Define: Virus, pathogen, viroid, prion, capsid, bacteriophage, vaccine
- Know the difference between the lytic and lysogenic cycle.
- Identify the parts of a virus and give its function →
- Define: Toxin, antibiotic, plasmid, flagella, endospore, conjugation
- What did Alexander Fleming discover?
- Label the 3 shapes of bacteria



a.



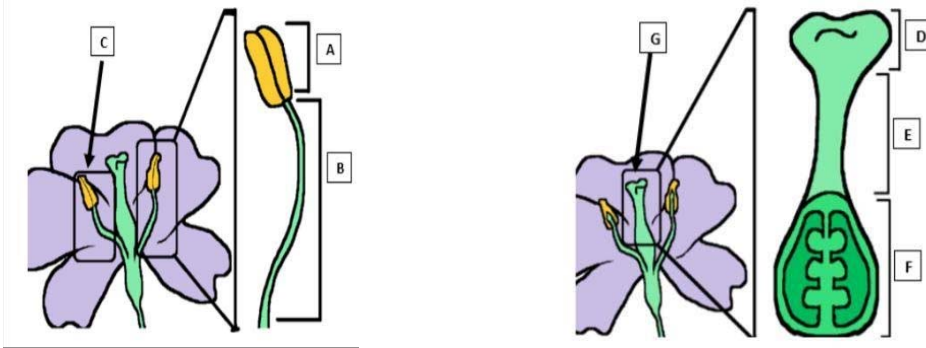
b.



c.

Chapter 20: Plant Diversity (Ch.21 and Ch.22 included)

- Know the parts of the plant



- Know the difference between monocots and dicots.
- Define: Stomata, cuticle, vascular system, flower, fruit, gymnosperm, angiosperm, pollination, transpiration, root hairs, xylem, phloem, guard cell
- Know the reproductive parts of a flower. (sepal, petal, stamen, carpel, ovary, endosperm)
- Understand plant hormones and responses. (hormone, ethylene, auxin, phototropism, gravitropism)

Unit 9: Human Biology (Ch.28-34)

- Know the main functions of the body systems:

1. Digestive
2. Immune/Lymphatic
3. Nervous
4. Integumentary
5. Circulatory
6. Reproductive
7. Muscular
8. Endocrine
9. Skeletal
10. Respiratory
11. Excretory

