Sharyland ISD
Study Guide

Biology
Semester 1

Student Name: _____

Student ID: _____

Review for Biology I – 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 2: Chemistry of Life

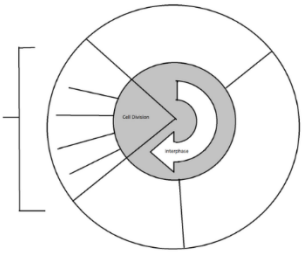
1. What are the four biomolecules present in all life and give examples?
2. What elements are present in all four biomolecules?
3. What are the characteristics of each of the Biomolecules present in all life?
4. What are the functions of the Biomolecules?
5. What is an enzyme and how does it help speed chemical reactions?

Chapter 3: Cell Structure and Function

6. What are the three principles of the Cell Theory?
7. What are the differences between prokaryotes and eukaryotes?
8. Be able to identify the following parts of a cell and know their functions: cell membrane, nucleus, mitochondria, gogli apparatus, endoplasmic reticulum, vacuoles, chloroplasts.
9. Define Diffusion.
10. What is the difference between active transport and passive transport and give examples?
11. Define Osmosis.
12. Define exocytosis and endocytosis.

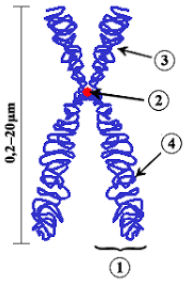
Chapter 4: Cell Energy

13. Define photosynthesis.
14. What is ATP and what is its composition?
15. Define cellular respiration.
16. Define fermentation.



Chapter 5: Cell Growth and Division

17. What are the phases of the cell cycle?
18. Which phase of the cell cycle do cells spend most of their time?
19. What are the three phases of Interphase and what happens in each?
20. Define Mitosis.
21. What are the four phases of mitosis and what is happening in each phase?
22. Be able to recognize the different phases of Mitosis if given a diagram.
23. What is cytokinesis and how is it different in plant and animal cells?
24. Define checkpoints and why is it important in the cell cycle?



Chapter 6: Meiosis and Mendel

25. Define Binary fission and what type of cells use this process?
26. How do biologists identify a male and female sex using chromosomes?
27. What is the difference between diploid and haploid cells?
28. Define Meiosis.
29. How many divisions are there in Meiosis and what is the difference?
30. Define crossing-over, when does it happen and why is it important?
31. Define homozygous, heterozygous, genotype and phenotype.
32. Be prepared to solve genetic problems using Punnett squares.
33. Know how to obtain a genotypic ratio and a phenotypic ratio from your Punnett square.
33. Define sex-linked traits and give some examples.