

Biology I Unit 4 Study Guide

Bio1u4sg (DNA and the Genetic Code)

Learning Objectives

1. Describe the structure of DNA. **196-199**
 - a. Describe who is given credit for uncovering DNA's structure.
 - b. What are nucleotides? Describe the three parts of a nucleotide.
 - c. Describe what is meant by complimentary base pairs. List the complimentary bases.
2. Summarize the process of DNA replication. **200-201**
 - a. Identify the role of enzymes in the replication of DNA.
3. Outline the flow of genetic information in cells from DNA to protein. **204-210**
 - a. List and describe the three types of RNA.
 - b. Summarize the process of transcription.
 - c. Describe the importance of the genetic code.
 - d. Compare the role of mRNA, rRNA, and tRNA in translation.

Assignments:

- Notebook: **10pts**
 - Reading from chapter 10
 - Notes on Study Objectives
 - RQ's 1-9 page 199; RQ's 1-11 page 210
 - Crossword
 - Human Karyotype
- Vocabulary Quiz **10pts**
- DNA Model **10pts**
- Lab: "Cracking the Code" **10pts**
- Unit 4 Test **20pts**

Vocabulary/Concepts:

dna replication protein synthesis transcription codon anticodon chromosomes gene
monosomy trisomy polyploidy translation nucleotide karyotype genome
nucleic acid

Misconceptions:

- *Different cells must have different DNA. All cells in the body have the same exact DNA except for gametes. Different cells just use different parts of the DNA for their specific functions.*
- *Using anticodons to translate amino acid sequence of a protein. The amino acid sequence is found on the mRNA and not on the anticodons. The anticodons are complimentary to the mRNA and help align the correct nucleotide in the correct sequence.*