

Unit Planner

Nucleic Acids & Protein Synthesis ~ Mid-Year Exam

Date	Day	Information Covered ~ Assignments ~ Homework Due
Wed 1/18	B	Start DNA, DNA WS HW: p314 Vocab – Sect 1-4 (20)
Thurs 1/19	C	Finish DNA/Replication, Replication WS (20)
Mon 1/23	E	RNA/Transcription, RNA WS HW: p294 & 299 #1-6 (20)
Tues 1/24	F	Science Fair Presentations (100)
Wed 1/25	G	Translation, Quiz on DNA & Replication (30) <i style="text-align: right;">End of Term 2</i>
Fri 1/27	A	Review, Mutations, Protein Synthesis WS, Finish WS (60) HW: p306 & 308 #1-5 (20)
Mon 1/30	B	Protein Synthesis Activity (30)
Tues 1/31	C	Review for Mid-Year Exam ~ See Study Guide or Science Fair Preparation
Thurs 2/2	E	Mid-Year Exam – Part 1 Due: Final Science Fair Assignment (200)
Fri 2/3	F	Period 7: Mid-Year Exam – Part 2 (400) Period 1: Science Fair Preparation

Essential Questions:

- What did scientists discover about the relationship between genes and DNA?
- What is the overall structure of the DNA molecule?
- What happens during DNA replication?
- What are the three main types of RNA and how are they involved in transcription and translation?
- What are mutations and how can they affect protein structure?

Massachusetts Curriculum Frameworks:

- 2.8 Compare and contrast a virus and a cell in terms of genetic material and reproduction.
- 3.1 Describe the basic structure (double helix, sugar/phosphate backbone, linked by complementary nucleotide pairs) of DNA, and describe its function in genetic inheritance.
- 3.2 Describe the basic process of DNA replication and how it relates to the transmission and conservation of the genetic code. Explain the basic processes of transcription and translation, and how they result in the expression of genes. Distinguish among the end products of replication, transcription, and translation.
- 3.3 Explain how mutations in the DNA sequence of a gene may or may not result in phenotypic change in an organism. Explain how mutations in gametes may result in phenotypic changes in offspring.