Protein Synthesis Remediation Questions

Name: _____ Date: _____ Block: _____

What Targets need remediation? _____

Directions: *Using your notes, study guide or classroom textbook; answer the following questions for the Targets you missed.* **WRITE IN COMPLETE SENTENCES!** *When you are finished with these questions, try the multiple choice again!*

Target 1: DNA Structure

1. Explain in detail the overall shape and parts of DNA. Include what nucleotides are, and the three parts that make up a nucleotide.

2. What are the base pairing rules of DNA?

3. If there is 20% Adenine in DNA, how much is there of Thymine? Guanine? Cytosine?

4. Draw a picture of DNA and **label** the following parts:
    a. Phosphate group
    b. Deoxyribose Sugar
    c. Hydrogen Bonds
    d. Nitrogen Bases
    e. Nucleotide

Target 2: DNA Replication

1. What is the purpose of DNA replication?

2. What is the name of the proteins (enzymes) involved in DNA replication?

3. What does each protein (enzyme) do?

4. How does DNA replication incorporate both new DNA and old DNA?

Target 3: DNA to RNA (Transcription)

1. What are the differences between DNA and RNA? Discuss the nucleotide and structural differences.

2. **Where** is RNA made?

3. What are the base pairing rules for DNA to RNA?

4. If a strand of DNA reads ATACGCA, what will the mRNA read?

Target 4RNA to Protein (Translation)

1. What is the purpose of tRNA? What would happen without it?

2. What is a chain of amino acids called?

3. How many letters code for one amino acid? What is that three letter word called?

4. What is the name of the chart that has all 64 amino acids on it?

5. Where does translation occur, or in what organelle? Can you draw a picture of the process?

Target 5Mutations

1. **Where** do mutations occur?

2. What process can cause mutations?

3. What could be the end result of a mutation?

4. Explain in detail what a point mutation is. Is it harmful to the overall protein, why?

5. Explain in detail what a frameshift mutation is. Is it harmful to the overall protein, why?