

Due Oct 09, 11:59 PM

Not Submitted

POINTS 5

Paper



3.1

3.2

DNA and Protein Synthesis

[Instructions](#)[Assignment Files](#)[Grading](#)

Answer the following questions, in a total of 350 to 700 words.

- Describe the structure of DNA and the steps of protein synthesis.
- Describe the relationships between the following terms:
 - DNA
 - Chromatin material
 - Gene
 - Chromosome
- Use the following gene in protein synthesis:
 - TAGGACCATTTTAGCCCC
 - Show the mRNA.
 - Show the tRNA.
 - Name the amino acids that will be placed in the polypeptide chain. (Use the codon table in Ch. 10, Figure 10.8A of *Campbell Biology*.)
- A gene will direct the making of polypeptide chains, and polypeptide chains form proteins. All enzymes are proteins. Therefore, how would you explain carrying a gene for a trait that does not show up in the offspring?
- In order for DNA to pass genetic information to the next generation, DNA must replicate successfully. Mistakes in replication could result in major problems in heredity.
 - Explain how DNA replicates.
 - Describe the formation of the leading strand and lagging strand and include the enzymes involved.
 - Why do the legs replicate differently?

Click the Assignment Files tab to submit your assignment.

Materials

[Campbell Biology: Concepts and Connections, Sections "The Structure of the Genetic Material" and "DNA Replication" in Ch. 10](#)

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