

**Bio 300- Chapters 9 & 10 DNA and Protein Synthesis (pgs 226-275)**

Key Vocabulary	Assignments
<p>Adenine                      Allele                      Amino Acid                      Anticodon                      Bacteriophage                      Base Pairing Rule                      Codon                      Chromosome                      Cytosine                      DNA                      DNA Polymerase                      Double helix                      exons                      Gene                      Genotype                      Guanine                      Helicase                      introns                      mRNA                      Mutagen                      Mutation                          a. Point mutation                          b. Base Deletion                          c. Base insertion                      Nitrogen Base Pair                      Nucleotide                      Phenotype                      Polymer                      Polypeptide                      Protein                      Thymine                      Replication                      RNA                      RNA Polymerase                      Start codon                      Stop codon                      tRNA                      Transcription                      Translation                      Trait                      Uracil                      Variation</p>	<p><b>1. Read 226-233 answer the following questions - due:</b></p> <ul style="list-style-type: none"> <li>a. What is bacterial transformation?</li> <li>b. How did the Hershey-Chase blender experiment demonstrate that DNA not Protein carried genetic information?</li> <li>c. What are the four bases that make up DNA?</li> <li>d. Why must the bases appear in matching quantities?</li> <li>e. If all living things are made up of the same DNA bases how then are they different?</li> </ul> <p><b>2. Read 234-236 answer the following questions - due:</b></p> <ul style="list-style-type: none"> <li>a. What did Watson and Crick mean when then said that DNA acted as a template for its replication?</li> <li>b. What role do enzymes (a kind of protein) play in replication?</li> <li>c. What is Deoxyribose?</li> <li>d. Why is DNA said to have a Sugar Phosphate backbone?</li> </ul> <p><b>3. Read 239 answer the following questions – due:</b></p> <ul style="list-style-type: none"> <li>a. How can you explain that two genes can vary in nucleotide sequence yet code for the exact same polypeptide?</li> <li>b. Suppose an error occurred during replication so that one extra nucleotide was added. How would that mutation affect the polypeptide coded for by that gene?</li> </ul> <p><b>4. Complete the one page study guide on DNA - due:</b></p> <p><b>5. Read 250-253 (stop at translation) - due:</b></p> <ul style="list-style-type: none"> <li>a. What is the purpose of Transcription?</li> <li>b. What is mRNA? What is occurring when it is processed?</li> </ul> <p><b>6. Read 253-256- due:</b></p> <ul style="list-style-type: none"> <li>a. What is tRNA?</li> <li>b. What is the relation ship of tRNA and mRNA and what does that have to do with all of this codon/ anti codon business?</li> <li>c. Why doesn't translation take place in the nucleus?</li> </ul> <p><b>7. Read 261-263 due:</b></p> <ul style="list-style-type: none"> <li>a. What is the difference between the three kinds of mutation listed in the key vocabulary column? How might they occur?</li> </ul> <p><b>8. Complete the one page study guide on Protein Synthesis – due:</b></p>