

Name _____

Bio 205

Protein Synthesis Worksheet

- Refresh your memory regarding the differences between transcription and translation.
 - In what region of a prokaryote does transcription take place? _____
 - Where would translation take place? _____
 - Where in a eukaryote does transcription take place? _____
 - Where in a eukaryote does translation take place? _____

- Practice the process of transcription by making a mRNA strand for the following DNA strand.

DNA 5' GGG ATC GAT GCC CCT TAA AGA GTT TAC ATA TTG 3'

mRNA

- Now it's time to practice the translation process.
 - Go to the Blackboard website for Bio 205 and click on the assignments button.
 - Click on the link titled "Protein synthesis link." You will be taken to another website where you can practice translation.
 - Read the introductory material, then scroll down to the bottom of the page at this website to the section titled "Steps in translation." Watch this animation.
 - Now hit the back button once. Find the section titled "Practice exercises" putting it all together. Do each of the three exercises.
 - When you complete the third exercise, you will have manufactured a protein. Write the amino acid sequence for the protein you made below:
- Review what you learned in class about mutations.
 - Define what a mutation is.
 - Consider the difference between frameshift and deletion/substitution mutations. Which type of mutation is more dangerous and why?