

Names: _____ Class: _____ Date: _____
Biology - Mr. Croft

Protein Synthesis Activity

30 Points

Complete the following tasks on a **separate piece of paper** using this D.N.A. molecule segment:

AATCTCCCATCAGACGTTTTTGCCCCGTAACAACCTTGTTACAACATGGTCATAAACG
TCAGAGATGGTCAATCTCTTAATGACGTTAACT

1. Decode the above strand of DNA. Write out the resulting mRNA.
- 2. What process is this?**

3. Now divide the m-RNA into its codons by separating them with a vertical line.
4. Using the amino acid chart found in your textbook, determine the name of the amino acid that each codon codes for. Write the name of the amino acids, in their proper order.
- 5. What process is this?**

6. After examining the polypeptide chain just constructed, determine if it is: a beginning, middle, or an end segment of the polypeptide. **Write the appropriate term denoting your segment.**

7. Find two other segments among your classmates that will complete the polypeptide. For example, if you have a middle segment you will need to find a beginning and an end segment.
8. Record the entire list of amino acids. Start with the beginning segment, followed by the middle, and ending with the tail.
- 9. How many amino acids does this complete polypeptide contain?**

- 10. How many molecules of water are lost in the process of creating this entire protein? (condensation reaction).**