

NAME _____

Protein Synthesis WebQuest

Topic: Protein Synthesis

A. Go to: http://www.wisc-online.com/objects/index_tj.asp?objid=AP1302

Read the animation page by page – just click the “next” button when you are ready to move on.

1. How does the mRNA leave the nucleus?
2. Is just one mRNA molecule made? Explain.
3. How many amino acids does each codon code for?
4. Describe the structure of a tRNA molecule.
5. Where does the energy to form the peptide bond between two amino acids come from?
6. Can a single mRNA be read more than once? Explain.

B. Go to: <http://learn.genetics.utah.edu/content/molecules/transcribe/>

Click the button that says “click here to begin”

Use the keyboard to type the bases that would form the mRNA.

1. List your bases from mRNA:
2. Which process did you just complete?

Follow the instructions to determine the order of the amino acids.

3. What is the first amino acid?
4. List the order of your amino acids.

5. How did the process know to end?
6. Which process did you just complete?

Read the script on the right side of the webpage.

7. Describe the process of transcription.
8. Describe the process of translation.

Overview:

Go to: http://www.zerobio.com/drag_oa/protein/transcription.htm

Scroll down and complete the transcription activity. Check to see if you are correct

1. Which base in RNA is replaced by uracil?
2. How many mRNA codons are illustrated above?
3. What is the name of the enzyme that creates the mRNA copy from DNA?
4. What is the name of the sugar in the mRNA nucleotides?
5. What is the mRNA transcript for the DNA sequence, TTACGC

Click Next at the bottom of the page.

Scroll down complete the translation activity . Check to see if you are correct.

1. What organelle assists tRNA in translating the mRNA in the cytoplasm?
2. The role of tRNA is to carry a(n):
3. Is a tRNA anticodon more similar to DNA or RNA in nucleotide sequence?
4. If the mRNA codon is CGA, the tRNA anticodon that binds with it is: