WRITE YOUR ANSWERS ON YOUR OWN PAPER!!!!!!!

DNA Transcription//Translation Internet Lab

Go to: **http://learn.genetics.utah.edu/** and click on **DNA to Protein**

1. Go to: **Build a DNA Molecule** and make a DNA strand - Write down the DNA strand you made:

_____

2. Look at Making Copies (right side of page) and read about how the DNA makes a copy of itself. How is this different from how it was described in class?

Go back to **DNA to Protein** and go to: **Transcribe and Translate a Gene**

3. Each gene codes for a _____ that performs a specialized function in the cell. The human genome contains more than _____ genes. A protein is made up of a string of _____.
4. Transcription and translation: (**bottom of page-right side)** - How is mRNA (messenger RNA) different from DNA?
5. Where is the protein made?
6. What is the sequence that tells the ribosome to start making a protein? _____
7. What are the sequences that tell the ribosome to stop making the protein? _____ _____ _____
8. Three nucleotides make up a particular _____.

9. Click on: **Click here to begin** and make an RNA copy - What is the mRNA sequence you created?

10. Find the start codon. It is_____.
11. List the amino acids you used to create your protein.
12. What was your stop codon? _____

Go to **http://www.pbs.org/wgbh/aso/tryit/dna/#**

Click on **DNA Workshop Activity**
Click on **Protein Synthesis** and follow the directions towork through synthesizing a strand of DNA

13. Why is there a U instead of a T in the four nitrogen bases?
14. Read what happens as you make your protein.
15. What is the job of tRNA?
16. What is an anti-codon?
17. Name the three amino acids that you use to make your protein.

Go back to the first website (at the top of the page) and click on **What Makes a Firefly Glow?** Watch the

L I F E

DICTIONARY OF tRNA CODONS & THEIR AMINO ACIDS (SYMBOLS & ABBREVIATIONS)

tRNA	sym	AA
AAA	F	Phe
AAC	L	Leu
AAG	F	Phe
AAU	L	Leu
ACA	C	Cys
ACC	W	Trp
ACG	C	Cys
ACU	-	spc
AGA	S	Ser
AGC	S	Ser

tRNA	sym	AA
CAA	V	Val
CAC	V	Val
CAG	V	Val
CAU	V	Val
CCA	G	Gly
CCC	G	Gly
CCG	G	Gly
CCU	G	Gly
CGA	A	Ala
CGC	A	Ala

tRNA	sym	AA
GAA	L	Leu
GAC	L	Leu
GAG	L	Leu
GAU	L	Leu
GCA	R	Arg
GCC	R	Arg
GCG	R	Arg
GCU	R	Arg
GGA	P	Pro
GGC	P	Pro

tRNA	sym	AA
UAA	I	Iso
UAC	M	Met
UAG	I	Iso
UAU	I	Iso
UCA	S	Ser
UCC	R	Arg
UCG	S	Ser
UCU	R	Arg
UGA	T	Thr
UGC	T	Thr