SBI4U Name: _____

GENETIC CODE WORKSHEET

Procedure A: Using the first table (identify the protein coded for by the DNA in your flask)

1. Record the flask # _____.
2. Record the DNA bases from your flask in ascending numerical order.
3. *Transcribe* the DNA triplets into the corresponding mRNA codons.
4. *Translate* the mRNA codons into amino acids using a Codon Table (from text).
5. Choose your protein from the list (bottom of page) by comparing the 3 amino acids.

DNA triplets	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
mRNA codons	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
amino acids	_____(aa1) - _____(aa2) - _____(aa3)
name of protein	

Procedure B: Using the other tables

1. Use one table for each of the remaining proteins. Write the name of the protein on the bottom line of a table then work backwards (from bottom to top of table). Note: there may be more than one mRNA codon and DNA triplet that fits; just choose any one that works.

DNA triplets	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
mRNA codons	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
amino acids	_____(aa1) - _____(aa2) - _____(aa3)
name of protein	

DNA triplets	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
mRNA codons	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
amino acids	_____(aa1) - _____(aa2) - _____(aa3)
name of protein	

DNA triplets	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
mRNA codons	_____ _____ _____ - _____ _____ _____ - _____ _____ _____
amino acids	_____(aa1) - _____(aa2) - _____(aa3)
name of protein	

insulin ... alanine - serine - valine ...
myoglobin ... arginine - leucine - phenylalanine ...
ribonuclease ... serine - glutamine - lysine ...
hemoglobin ... leucine - histidine - cysteine ...