

Name _____ Date _____ Per _____

Practicing DNA Transcription and Translation

For the following examples, give the appropriate sequence of DNA, mRNA, tRNA and/or polypeptide (AA = amino acids). **Remember:** A codon chart can only be used for decoding a strand of mRNA.

		Codon Chart					
		Second Position					
		U	C	A	G		
First Position (5')	U	Phenylalanine Phenylalanine Leucine Leucine	Serine Serine Serine Serine	Tyrosine Tyrosine Stop Stop	Cysteine Cysteine Stop Tryptophan	U	C
	C	Leucine Leucine Leucine Leucine	Proline Proline Proline Proline	Histidine Histidine Glutamine Glutamine	Arginine Arginine Arginine Arginine	A	G
	A	Isoleucine Isoleucine Isoleucine Methionine	Threonine Threonine Threonine Threonine	Asparagine Asparagine Lysine Lysine	Serine Serine Arginine Arginine	U	C
	G	Valine Valine Valine Valine	Alanine Alanine Alanine Alanine	Aspartic acid Aspartic acid Glutamic acid Glutamic acid	Glycine Glycine Glycine Glycine	A	G
						Third Position (3')	

Example 1:

DNA: T A C G C G C C T A G G G G G T G G

mRNA: _____

AA: _____

Example 2:

DNA: T T C G A T T A G A T G C C G A A G

mRNA: _____

tRNA: _____

AA: _____

Example 3:

DNA: C _ _ _ G _ A _ _ A _ _ C _ T _

mRNA: _ U _ _ A _ _ C _ A _ G _ A _

tRNA: _ A U G _ U _ U G G _ U C C _ G _ A

AA: _____

Protein Synthesis Overview Diagram

Label the summary of protein synthesis diagrammed below using the following terms: transcription, translation, DNA, mRNA, ribosome, tRNA, amino acid, polypeptide, nucleus, codon, and anticodon.

