

Name _____ Date _____

Fill in the blanks in the table below. Use Figure 5.1: Genetic Code: mRNA Codons to identify the amino acids.

The genetic code matches each mRNA codon with its amino acid or function.

Suppose you want to determine which amino acid is encoded by the CAU codon.

- Find the first base, C, in the left column.
- Find the second base, A, in the top row. Find the box where these two intersect.
- Find the third base, U, in the right column. CAU codes for histidine, abbreviated as His.

		Second base								
		U		C		A		G		
First base	U	UUU	phenylalanine(Phe)	UCU		UAU	tyrosine (Tyr)	UGU	cysteine (Cys)	U
	UUC		UCC	serine (Ser)	UAC		UGC		C	
	UUA	leucine (Leu)	UCA		UAA	STOP	UGA	STOP	A	
	UUG		UCG		UAG	STOP	UGG	tryptophan (Trp)	G	
C	CUU	leucine (Leu)	CCU	proline (Pro)	CAU	histidine(His)	CGU	arginine (Arg)	U	
CUC		CCC		CAC		CGC		C		
CUA		CCA		CAA	glutamine (Gln)	CGA		A		
CUG		CCG		CAG		CGG		G		
A	AUU	isoleucine (Ile)	ACU	threonine (Thr)	AAU	asparagine (Asn)	AGU	serine (Ser)	U	
AUC		ACC		AAC		AGC		C		
AUA		ACA		AAA	lysine (Lys)	AGA	arginine (Arg)	A		
AUG	methionine (Met)	ACG		AAG		AGG		G		
G	GUU	valine (Val)	GCU	alanine (Ala)	GAU	aspartic acid (Asp)	GGU	glycine (Gly)	U	
GUC		GCC		GAC		GGC		C		
GUA		GCA		GAA	glutamic acid (Glu)	GGA		A		
GUG		GCG		GAG		GGG		G		

Type of molecule	Sequences of bases or amino acids See text Table 10-3 for genetic code.
DNA template strand	_____ TAG _____ AGC _____ TCA
DNA non-template strand	GAA _____ TTA _____ CCG _____
messenger RNA codons	_____ _____ _____ _____ _____
transfer RNA anticodons	_____ _____ _____ _____ _____
protein amino acid sequence	_____ _____ _____ _____ _____