

Name: _____ Date: _____ Block: _____

Genetic Code

Step #1: Transcribe DNA → RNA

A → U	T → A	C → G	G → C
-------	-------	-------	-------

For example:

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

Becomes RNA U G U A G A A U A U G C A A G

Step #2: Translate RNA → Protein (chain of amino acids)

		Second Letter					
		U	C	A	G		
First Letter	U	UUU	UCU	UAU	UGU	Third Letter	U
		UUC	UCC	UAC	UGC		C
		UUA	UCA	UAA	UGA		A
		UUG	UCG	UAG	UGG		G
	C	CUU	CCU	CAU	CGU	U	
		CUC	CCC	CAC	CGC	C	
		CUA	CCA	CAA	CGA	A	
		CUG	CCG	CAG	CGG	G	
	A	AUU	ACU	AAU	AGU	U	
		AUC	ACC	AAC	AGC	C	
		AUA	ACA	AAA	AGA	A	
		AUG	ACG	AAG	AGG	G	
	G	GUU	GCU	GAU	GGU	U	
		GUC	GCC	GAC	GGC	C	
		GUA	GCA	GAA	GGA	A	
		GUG	GCG	GAG	GGG	G	

For example:

RNA U G U A G A A U A U G C A A G

Becomes protein C R I C K

What does this secret message say?

T A A G A A T A G T T T C T T T A C C G T T G A G T A

A T T C T T A T C A A A G A A A T G G C A A C T C A T

My partner is : _____ My role is : _____

(transcription OR translation)

1 : DNA -----
mRNA -----
Protein _ _ _ _ _

2 : DNA -----
mRNA -----
Protein _ _ _ _ _

3 : DNA -----
mRNA -----
Protein _ _ _ _ _

Conclusion:

1. Why is the making of messenger RNA called transcription and not replication?
2. Why is the making of proteins called translation?
3. Identify where transcription and translation occur.