NAME _____

REPLICATION, TRANSCRIPTION, & TRANSLATION REVIEW

REPLICATION

Use the DNA code provided and fill in the complementary DNA strand.
Which nitrogen base CAN'T you use during replication? _____

A T T C G A T G C _____

T A C G G A T C G _____

C A G T G A C T T _____

TRANSCRIPTION

Use the DNA code provided to copy an m-RNA message.
Which nitrogen base CAN'T you use during transcription? _____

A C T G G A T A C _____

A C G G A T C G T _____

T G A C A G C T A _____

TRANSLATION:

USE the **Genetic Code Chart** to DETERMINE the AMINO ACID that corresponds to the m-RNA CODE GIVEN

mRNA CODE	AMINO ACID
AAA	
GCG	
GAU	
CAA	
CAC	
UUU	

Which two mRNA codes correspond to histidine?

_____ _____

How many different mRNA codes correspond to Threonine? _____

Which amino acids has ONLY ONE codon that codes for it?

_____

Genetic Code Chart

First Base	*Second Base*				*Third Base*
	U	C	A	G	
U	Phenylalanine	Serine	Tyrosine	Cysteine	U
	Phenylalanine	Serine	Tyrosine	Cysteine	C
	Leucine	Serine	Stop	Stop	A
	Leucine	Serine	Stop	Tryptophan	G
C	Leucine	Proline	Histidine	Arginine	U
	Leucine	Proline	Histidine	Arginine	C
	Leucine	Proline	Glutamine	Arginine	A
	Leucine	Proline	Glutamine	Arginine	G
A	Isoleucine	Threonine	Asparagine	Serine	U
	Isoleucine	Threonine	Asparagine	Serine	C
	Isoleucine	Threonine	Lysine	Arginine	A
	Methionine	Threonine	Lysine	Arginine	G
G	Valine	Alanine	Aspartate	Glycine	U
	Valine	Alanine	Aspartate	Glycine	C
	Valine	Alanine	Glutamate	Glycine	A
	Valine	Alanine	Glutamate	Glycine	G

Tell the amino acid sequence for the following mRNA message:

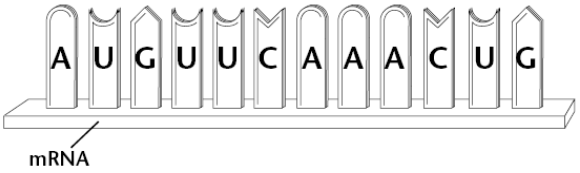
MRNA MESSAGE: A U G C C A U G G C A U

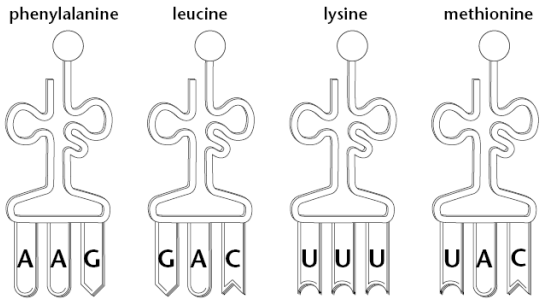
Amino acid sequence:

_____ - _____ - _____ - _____

Look at the m-RNA message below:

PUT A NUMBER under each of the t-RNA/amino acid complexes to show the correct sequence that they would attach as this message is read.





_____ _____ _____ _____

WHAT IS THE AMINO ACID SEQUENCE FOR THE PROTEIN THAT WOULD BE PRODUCED FROM THIS MESSAGE?

_____ - _____ - _____- _____

FILL IN THE INFORMATION BELOW with the correct sequence

DNA code T T A C G C G C A

mRNA message _____

DNA code _____

mRNA message G G C U U A G C A

DNA code A C A C T C G G C

mRNA message _____

DNA code _____

mRNA message C U G G C U A C A

This process of protein synthesis is also called _____

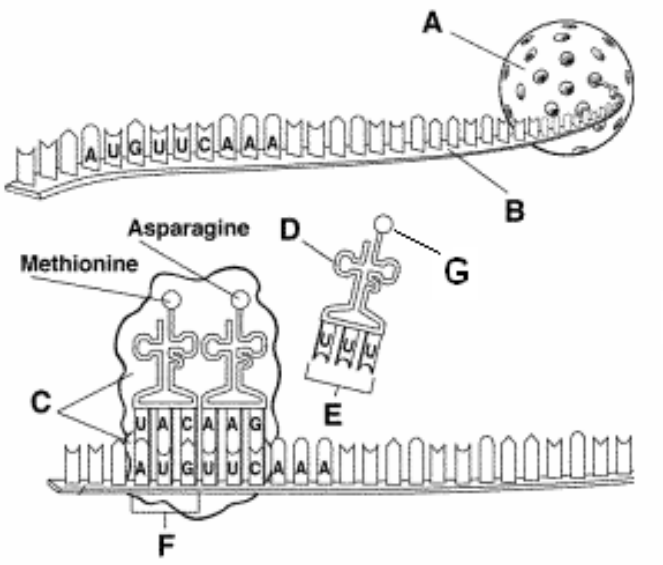
Another name for a protein chain is _____

What if a mutation caused a change in the code so the message read UGG instead of UGC? How would this affect the protein produced?

_____

What if a mutation caused a change in the code so the message read GGA instead of GGC? How would this affect the protein produced?

_____



<u>Directions</u>: MATCH THE PARTS IN THE DIAGRAM WITH THE CORRECT LABEL.

_____ RIBOSOME (rRNA)

_____ NUCLEUS

_____ MESSENGER RNA (mRNA)

_____ ANTICODON

_____ AMINO ACID

_____ CODON

_____ TRANSFER RNA (tRNA)