Gene Mutation Activity – Point and Frameshift

Procedure:

1. The following is a piece of DNA that a protein will be made from. Write the complementary mRNA in the spaces below it.

2. G – A – C – G – C – C – A – T – G – G – A – A – G – T – C

3. __ - __ - __ - __ - __ - __ - __ - __ - __ - __ - __ - __ - __ - __ - __

4. Draw a vertical line between each codon. Look up the amino acid for each codon on the codon chart and write them in the spaces below. Be sure to do this in order. This is the "normal protein."

			ACA	C	cys	UAU	I	iso	GUC	Q	glu	UGG	T
thr			ACG	C	cys	UUC	K	lys	GUU	Q	glu	UGU	T
thr			CUA	D	asp	UUU	K	lys	GCA	R	arg	CAA	V
val			CUG	D	asp	AAC	L	leu	GCC	R	arg	CAC	V
val			CUC	E	glu	AAU	L	leu	GCG	R	arg	CAG	V
val			CUU	E	glu	GAA	L	leu	GCU	R	arg	CAU	V
val			AAA	F	phe	GAC	L	leu	UCC	R	arg	ACC	W
trp			AAG	F	phe	GAG	L	leu	UCU	R	arg	AUA	Y
tyr			CCA	G	gly	GAU	L	leu	AGA	S	ser	AUG	Y
tyr			CCC	G	gly	UAC	M	meU	AGC	S	ser	ACU	-
space			CCG	G	gly	UUA	N	asn	AGG	S	ser	AUC	-
space			CCU	G	gly	UUG	N	asn	AGU	S	ser	AUU	-