Name _____ Class _____ Date _____

Skills Worksheet

Science Skills

Interpreting Tables

Use the table below to complete items 1–17.

Codons in mRNA

First base	Second base: U	Second base: C	Second base: A	Second base: G	Third base
U	UUU, UUC – Phenylalanine UUA, UUG – Leucine	UCU, UCC, UCA, UCG – Serine	UAU, UAC – Tyrosine UAA, UAG – Stop	UGU, UGC – Cysteine UGA – Stop UGG – Tryptophan	U C A G
C	CUU, CUC, CUA, CUG – Leucine	CCU, CCC, CCA, CCG – Proline	CAU, CAC – Histidine CAA, CAG – Glutamine	CGU, CGC, CGA, CGG – Arginine	U C A G
A	AUU, AUC, AUA – Isoleucine AUG – Start	ACU, ACC, ACA, ACG – Threonine	AAU, AAC – Asparagine AAA, AAG – Lysine	AGU, AGC – Serine AGA, AGG – Arginine	U C A G
G	GUU, GUC, GUA, GUG – Valine	GCU, GCC, GCA, GCG – Alanine	GAU, GAC – Aspartic acid GAA, GAG – Glutamic acid	GGU, GGC, GGA, GGG – Glycine	U C A G

Complete the table below showing sequences of DNA, mRNA codons, anticodons, and corresponding amino acids. Use the list of mRNA codons in the table above to assist you in completing this exercise. Remember that the genetic code is based on mRNA codons.

Decoding DNA

DNA	**1.** _____	**2.** _____	GAT	**3.** _____
mRNA codon	**4.** _____	**5.** _____	**6.** _____	UAU
Anticodon	**7.** _____	UUC	**8.** _____	**9.** _____
Amino acid	Tryptophan	**10.** _____	**11.** _____	**12.** _____

Name _____ Class _____ Date _____

Science Skills *continued*

Determine how the mutations below will affect each amino acid sequence. Use the mRNA codons in the table on the previous page to complete items a–d below. In the space provided, write the names of the amino acids that correspond to each mRNA sequence and mutation given. An example is provided for you.

Example:

mRNA sequence:	UGU-CCG	cysteine-proline
mutation sequence:	UGC-CGC	cysteine-arginine

13. mRNA sequence:	GAA-CGU	_____
mutation sequence:	GAU-CGU	_____
14. mRNA sequence:	AUC-UGC	_____
mutation sequence:	AUC-UGG	_____
15. mRNA sequence:	UGU-CCU-CCU	_____
mutation sequence:	UGU-UUC-CCU	_____
16. mRNA sequence:	GGG-UUA-ACC	_____
mutation sequence:	GGU-UAA	_____

17. What kind of mutation occurred to the mRNA sequence in item 16 above? Explain.

_____

_____

_____

_____

_____

_____