

Learning Target: I can explain how mistakes in DNA replication can lead to mutations.

DNA Mutations Interactive Activity

Select the correct base for DNA to RNA during transcription:

DNA	RNA
A	
G	
C	
T	

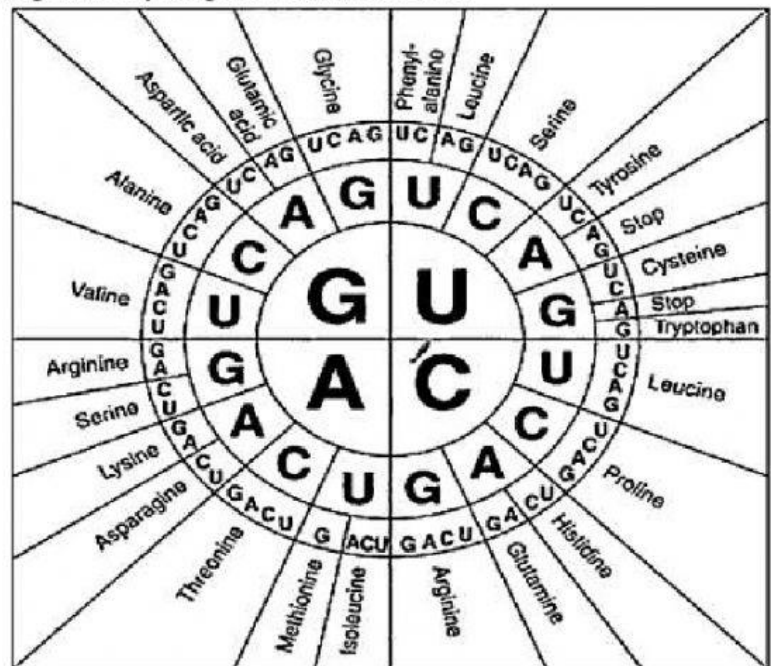
Select the correct amino acid for the following codons by using the codon chart below.

Codon	Amino Acid
AUG	
CGA	
UUA	
CGU	
ACG	
GAU	
UGA	

	U	C	A	G	
U	Phenylalanine Phenylalanine Leucine Leucine	Serine Serine Serine Serine	Tyrosine Tyrosine Stop Stop	Cysteine Cysteine Stop Tryptophan	U C A G
C	Leucine Leucine Leucine Leucine	Proline Proline Proline Proline	Histidine Histidine Glutamine Glutamine	Arginine Arginine Arginine Arginine	U C A G
A	Isoleucine Isoleucine Isoleucine Methionine	Threonine Threonine Threonine Threonine	Asparagine Asparagine Lysine Lysine	Serine Serine Arginine Arginine	U C A G
G	Valine Valine Valine Valine	Alanine Alanine Alanine Alanine	Aspartic acid Aspartic acid Glutamic acid Glutamic acid	Glycine Glycine Glycine Glycine	U C A G

Select the correct amino acid for the following codons by using the codon wheel below.

Codon	Amino Acid
AUG	
GGA	
UGU	
GCU	
AGC	
AUA	
UAA	



Created By: Chivas & Jordan Spivey

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1. Codons are read in _____ to make _____ to make _____.
2. Another name for a protein is a _____.
3. A mutation where an extra base has been added is called a _____.
4. A mutation in which a base has been removed is called a _____.
5. A mutation in which a base has been substituted for another base is called a _____.
6. A mutation in which a base has been added or removed leads to a _____.
7. What is a silent substitution caused by? _____.
8. What are gene mutations undesirable? _____.

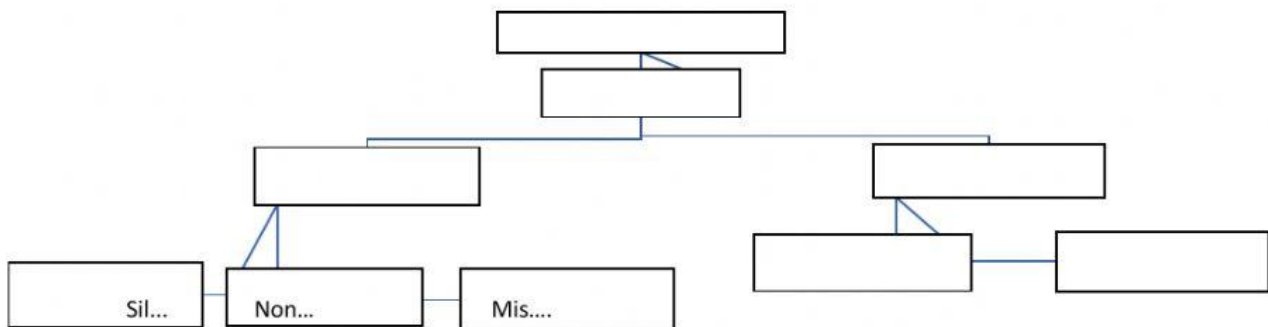
Select the type of mutation that has occurred based upon the original DNA sequence below:

Original DNA Sequence: AUG GCA UUU CUA

Mutated Strand 1: AUG CGC AUU UCU A

Mutated Strand 2: AUG CAU UUC UA

Mutated Strand 3: AUG GCA UUU AUA



Drag & Drop the following words in their correct place on the concept map above.

-Gene mutations

-Point mutations

-Frameshift mutations

-Deletion

-Nonsense

-Insertion

-Missense

-Silent

-Substitution

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Use your codon chart or codon wheel to get the amino acid sequence and the type of mutation it is.
Make sure to refer back to the original DNA and amino acid sequence to identify the type of mutation (type of Substitution, Insertion or Deletion).

Original DNA Sequence:	TAC	GAC	AAC	CGA	AGC	ACT
mRNA Sequence:						
Amino Acid Sequence:						

Mutated DNA Sequence #1:	TAC	GAC	GAA	CCG	AAG	CAC	T
mRNA Sequence:							
Amino Acid Sequence:							
Type of Mutation:							

Mutated DNA Sequence #2:	TAC	GAC	AAC	UGA	AGC	ACT
mRNA Sequence:						
Amino Acid Sequence:						
Type of Mutation:						

Scan QR Code to take the Quiz!!!



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