**GENE MUTATIONS**

***REVIEW*** *THE TYPES OF RNA, THEIR STRUCTURES AND PURPOSES.* ***PAGE 300*** *OF BIOLOGY TEXT.*

***TYPES OF RNA:***

***1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***DIAGRAM:***

***PURPOSE:***

***2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***DIAGRAM:***

***PURPOSE:***

***3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***DIAGRAM:***

***PURPOSE:***

**DNA MUTATIONS**

Using the website provided answer the following questions and complete all the a*ctiv*ities requested as you read, review and interact with the site.

**What is a mutation?**

Can you make mutations that maintain or change the meaning of the sentence without creating such nonsense? **If so record it here:**

*CLICK ON THE ACTIVITY MUTATE A DNA SEQUENCE*

**What is the Universal Genetic Code?**

**Summarize the key features of the Universal Genetic Code:**

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*

**TYPES OF MUTATIONS**

**What is a POINT MUTATION?**

**Diagram an example:**

**How do point mutations change the gene’s protein product?**

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*

**Diagram and explain an INSERTATION MUTATION:**

**Diagram and explain a DELETION MUTATION:**

**Both of insertation and deletion mutations cause FRAMESHIFT MUTATIONS which are:**

*ANSWER THE FOLLOWING QUESTIONS AFTER REVIEW THE PAGE AND THE UNIVERSAL GENETIC CODE. CHECK YOUR RESPONSES FOR ACCURACY AND CORRECT AS NECESSARY.*

1. What is the amino acid sequence encoded by the DNA sequence?
2. What does a missense mutation look like? How does it change the amino acid sequence?
3. What does a nonsense mutation look like? How does it change the amino acid sequence?
4. You can make more than one frameshift mutation. What do they look like? How do they change the amino acid sequence?
5. Notice how a single amino acid can be encoded by a number of different codons. What are some examples of silent mutations in the DNA sequence?

**GO BACK TO THE CLASS HOMEWORK PAGE. CLICK ON HOW DO MUTATIONS OCCUR?.**

Using the website provided answer the following questions and complete all the a*ctiv*ities requested as you read, review and interact with the site.

**dna mutates in 2 Ways:**

1.

**CLICK ON WANT TO KNOW MORE ABOUT WHAT CAUSES DNA MUTATIONS**

**what causes the DNA to mutate?**

1.

1.

**DIAGRAM AND LABEL THE FOLLOWING:**

**Modifying nucleotide bases:**

**Breaking the phosphate backbone:**

**DNA REPLICATION**

**How often do mutations occur?**