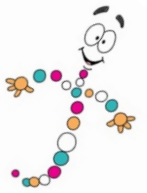


Biology

Understanding Mutations



Names: _____ Block: _____

You have already been introduced to the various types of mutations from the “Get the Point” activity. Today you will work with the different types of mutations again, but this time you will have to incorporate the processes of transcription and translation. You will be working with a “gene” to gain an understanding of how mutations can affect the expression of that gene by working with various sentences.

You will start by going to <https://fraserbio.weebly.com/understanding-mutations.html> then select a DNA strand to work with: Strand # _____

1. Look at your original DNA strand.
2. Transcribe the DNA strand to create a strand of mRNA. Write out the mRNA sequence below.

3. Now look at the “codons” chart and translate your mRNA strand into a complete sentence. Write your sentence below.

4. Look at the DNA labeled “Mutation #1”
 - a. Transcribe the DNA into a strand of mRNA. Write out the mRNA sequence below.

 - b. Translate your mRNA strand below using the “codons” chart.

 - c. Has the meaning of your sentence changed? If so, explain how.

5. Look at the DNA labeled “Mutation #2”
 - a. Transcribe the DNA into a strand of mRNA. Write out the mRNA sequence below.

 - b. Translate your mRNA strand below using the “codons” chart.

 - c. Has the meaning of your sentence changed? If so, explain how.

6. Look at the DNA labeled “Mutation #3”
 - a. Transcribe the DNA into a strand of mRNA. Write out the mRNA sequence below.

 - b. Translate your mRNA strand below using the “codons” chart.

 - c. Has the meaning of your sentence changed? If so, explain how.

7. Look at the DNA labeled “Mutation #4”
 - a. Transcribe the DNA into a strand of mRNA. Write out the mRNA sequence below.

 - b. Translate your mRNA strand below using the “codons” chart.

 - c. Has the meaning of your sentence changed? If so, explain how.

8. Look at the DNA labeled “Mutation #5”
 - a. Transcribe the DNA into a strand of mRNA. Write out the mRNA sequence below.

 - b. Translate your mRNA strand below using the “codons” chart.

 - c. Has the meaning of your sentence changed? If so, explain how.

9. What do mutations 1 & 2 have in common? How are they different?

10. What happened to your sentence with mutation 3?

