

Name _____

Mutations Worksheet

1-4 Match the description to appropriate mutation by writing the corresponding letter.

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|-----------------------|--|
| 1. Deletion _____ | A. When a base pair is replaced by an incorrect base pair. |
| 2. Insertion _____ | B. When a base pair is left out of the DNA molecule. |
| 3. Mutation _____ | C. When an extra base pair is added to the DNA molecule. |
| 4. Substitution _____ | D. When the DNA sequence of the DNA molecule is altered. |

5. Using the original strand as a reference, circle where the deletion mutation occurred in the mutated DNA Strand.

The original DNA strand is : ATT CTG TGC TTG
TAA GAC ACG AAC

Mutated Strand : ATT CTG TGC TTG
TAA GAC AG AAC

6. Using the original strand as a reference, circle where an insertion mutation occurred in the mutated DNA Strand.

The original DNA strand is : CAT GAG TTA AGA
GTA CTC AAT TCT

Mutated Strand : CAT GAG TTA AGA
GTA CTC AAT TCCT

7. Using the original strand as a reference, circle where a substitution mutation occurred in the mutated DNA Strand.

The original DNA strand is : TAG CGT TTA GGA
ATC GCA AAT CCT

Mutated Strand : TAG CCT TTA GGA
ATC GGA AAT CCT

8. Compare the DNA of an individual with Huntington's Disease to a healthy DNA strand. Circle the location of the mutation and then identify the type of mutation.

Healthy Strand: AAG TTG ATT AGC
TTC AAC TAA TCG

Huntington's Disease Strand: AAG TTG ATT AGC
TTC AAGC TAA TCG

Type of Mutation: _____

Name _____

9. Compare the DNA of an individual with a Cleft Palate to a healthy DNA strand. Circle the location of the mutation and then identify the type of mutation.

Healthy Strand: TGC AAG TCA CAT
ACG TTC AGT GTA

Cleft Palate Strand: TGC AAG TCA CAT
ACG TC AGT GTA

Type of Mutation: _____

10. Compare the DNA of an individual with a Sickle Cell Anemia to a healthy DNA strand. Circle the location of the mutation and then identify the type of mutation.

Healthy Strand: ACG GAG TAG TAT
TGC CTC ATC ATA

Sickle Cell Anemia Strand: ACG GTG TAG TAT
TGC CAC ATC ATA

Type of Mutation: _____

11. Write your own deletion mutation DNA Strand based on the original DNA Strand Below. Then circle where the mutation happens.

Original DNA Strand: ACG TTT AGT GTA
TGC AAA TCA CAT

Deletion DNA Strand:

12. Write your own substitution mutation DNA Strand based on the original DNA Strand Below. Then circle where the mutation happens.

Original DNA Strand: TTC AAC TAA TCG
AAG TTG ATT AGC

Substitution DNA Strand:

13. Write your own insertion mutation DNA Strand based on the original DNA Strand Below. Then circle where the mutation happens.

Original DNA Strand: ATC GGT CAG AAC
TAG CCA GTC TTG

Insertion DNA Strand: