

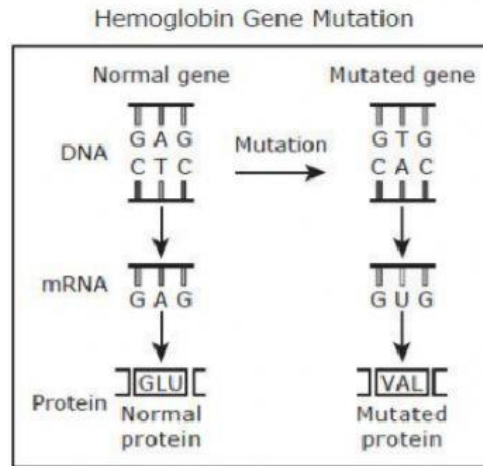
## **DNA Mutations**

*Label the mutations as the correct name. Place a star next to the mutations that result in a frameshift mutation.*

|                               |                                |                                  |                                    |
|-------------------------------|--------------------------------|----------------------------------|------------------------------------|
| Chromosome mutation: deletion | Chromosome mutation: inversion | Chromosome mutation: duplication | Chromosome mutation: translocation |
| Point mutation: substitution  | Point mutation: deletion       | Point mutation: insertion        |                                    |

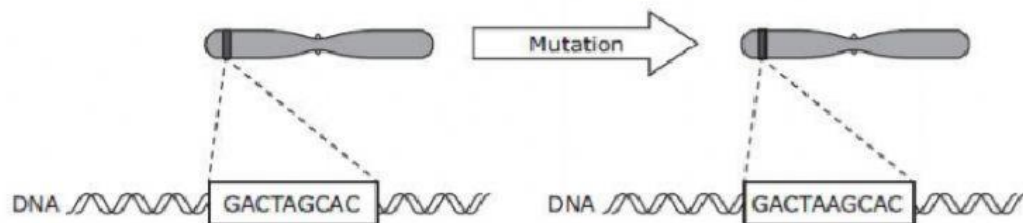
1. Original DNA strand: TAC GCG AAT TCA AAG  
Mutated DNA strand: TAC GGG AAT TCA AAG \_\_\_\_\_
2. Original DNA strand: AGG TTG GGC AAA TTT  
Mutated DNA strand: AGG TTG GGC TTT \_\_\_\_\_
3. Original DNA strand: TTC AAG GGT TAT CGC  
Mutated DNA strand: TTC GAA GGT TAT CGC \_\_\_\_\_
4. Original DNA strand: TAC GCG CCC TTT AAA  
Mutated DNA strand: TCG CGC CCT TTA AA \_\_\_\_\_
5. Original DNA strand: CCT TGT GGA AAC CGC  
Mutated DNA strand: CCT TGT TGT GGA AAC CGC \_\_\_\_\_
6. Original DNA strand: TAG CAT TAC ACT GAC  
Mutated DNA strand: TAG CAT TAC ACT GAC TTT \_\_\_\_\_
7. Original DNA strand: AAA GTA CCT TAC CAT  
Mutated DNA strand: AAA GCT ACC TTA CCA T \_\_\_\_\_

- 52 A certain mutation in the gene for hemoglobin results in the red blood cells becoming sticky, rigid, and irregularly shaped. These irregularly shaped red blood cells block the flow of blood throughout the body. A single base mutation is responsible for these irregularly shaped blood cells.



Which of these mutations most likely results in the mutated hemoglobin gene?

- F Insertion
  - G Deletion
  - H Duplication
  - J Substitution
- 2 Different types of mutations can occur in DNA. The diagram represents a type of mutation.



Which statement describes the mutation in the diagram?

- F A silent mutation results in the insertion of a different amino acid.
- G A substitution occurs with the adenine base.
- H A deletion of a cytosine base occurs.
- J A base is inserted into one strand of the DNA.