Reading DNA Activity: Mutation Types

**What types of mutations can occur in DNA sentences?**

1. **Point mutations** are single nucleotide base changes in a gene's DNA sequence. This type of mutation can change the gene's protein product in the following ways:
* **Missense mutations** are point mutations that result in a single amino acid change within the protein.
* **Nonsense mutations** are point mutations that create a premature "translation stop signal" (or "stop" codon), causing the protein to be shortened.
* **Silent mutations** are point mutations that do not cause amino acid changes within the protein.



1. **Insertion mutations** and **deletion** mutations add or remove one or more DNA bases. Insertion and deletion mutations cause frameshift mutations, which change the grouping of nucleotide bases into codons. This results in a shift of "reading frame" during protein translation.

