Name _____

Decoding the Genetic Blueprint: Understanding DNA Translation

Short Answer Key

1. Ribosomes serve as the site of protein synthesis in cells, where mRNA attaches and amino acids are assembled into proteins.
2. The genetic code is a set of rules that determines how the nucleotide sequence of mRNA is translated into the amino acid sequence of proteins. It relates to translation by specifying which codons code for which amino acids.
3. Transfer RNA (tRNA) is important in translation because it carries specific amino acids to the ribosome, where they are matched to their corresponding codons on the mRNA.
4. Understanding translation contributes to medical research by providing insights into the mechanisms of protein synthesis and identifying targets for drug development and treatment of diseases.
5. Translation occurs in the cytoplasm of eukaryotic cells. This location is important because ribosomes, the molecular machines that carry out translation, are located in the cytoplasm, and proteins are synthesized outside the nucleus.

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