

Transcription and Translation Activity Follow Up Questions



1. In what ways do the chemical structures of DNA and RNA differ?
2. What is a codon and what does it represent?
3. What is an anticodon?
4. Compare and contrast the final products of DNA replication and transcription.
5. You have learned that there is a stop codon that signals the end of an amino acid chain. Why is it important that a signal to stop translation be part of protein synthesis?
6. Why does a cell need to carry out transcription before translation?
7. Explain how a gene directs the synthesis of a protein, Include in your explanation the words amino acid, anti-codon, codon, cytoplasm, DNA, mRNA, nucleotide, nucleus, protein, ribosome, RNA polymerase, tRNA, transcription, translation, 5' cap, and poly-A tail.
8. In the cell how could a single changed base in mRNA affect the synthesis of proteins?
9. Describe the function of each of the following in protein synthesis: rRNA, mRNA and tRNA.
10. Considering that we are all made up of the same 4 nucleotides in our DNA, and the same 4 nucleotides in our RNA, and the same 20 amino acids in our proteins, why are we so different from each other?
11. Why does it make sense to use the word translation to describe protein synthesis?
12. Why would it not make sense to use the word translation to describe mRNA synthesis?