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DNA Structure, Transcription and Translation

1. Who were Watson, Crick, Franklin, and Wilkins? What were each of their contributions?
2. Explain the significance of Photo 51.
3. Nucleic acids are polymers of nucleotides. What is a nucleotide?
4. Which nitrogenous bases are found in DNA? Which can be found in RNA?
5. Explain how DNA and RNA replicate
6. Describe the function of DNA polymerase.
7. Define mutation
8. Contrast point with frameshift mutations,
9. Which is more dangerous—somatic or germ-line mutations? Why?
10. Describe the structure and function of proteins.
11. What is a polypeptide?
12. What is an amino acid?
13. Where and how are proteins assembled?
14. Compare and contrast transcription with translation.
15. Outline the steps involved in assembling a proteins.
16. Compare and contrast exons with introns.
17. What is a codon? Anticodon?
18. Describe the structure and function of DNA, RNA, mRNA, tRNA, rRNA
19. What is the structure and function of the ribosome.
20. Explain how genes are regulated?
21. Why are genes regulated?
22. Who were Monod and Jacob?
23. Describe the function of the lacOperon.