

Study guide

Write the Word that goes with the statement or definition.

1. Factor that consists of two alleles _____
2. The process in which a complimentary mRNA molecule is made by copying the nucleotide sequence of DNA _____
3. The type of RNA that has an anticodon and amino acid _____
4. Enzyme involved in **transcription** that unwinds the DNA strands and assembles nucleotides into an **mRNA** strand. _____
5. The principle that explains how adenine can only bond with thymine and cytosine can only bond with guanine. _____
6. The process of decoding mRNA into a protein. _____
7. Draw and Label the 3 parts of a nucleotide. List the 4 bases.
8. Draw a diagram showing the Central Dogma Theorem.
9. Replication: Diagram and label a DNA molecule going through the steps of replication. Be sure to label, the DNA molecule, DNA polymerase, Helicase, the replication fork, and the bases
10. Transcription: Diagram and label the formation of an mRNA molecule. Be sure to label, the DNA, mRNA, RNA polymerase and the bases

11. Transcription: For each piece of DNA – transcribe a mRNA complementary strand

- a. TTACCG
- b. CCAGGT
- c. TATGCG

12. Double bubble: Compare DNA with RNA (have 3 similarities and 3 differences)

13. List the 3 main parts of the Central Dogma Theory. State their location in the cell.

14. Translation: For the below listed DNA molecules, transcribe them into DNA and then into

Amino Acids	mRNA	Amino Acid
a. TCTGAG		
b. AATAAC		
c. CGCGCG		

15. Go backwards: For the Amino Acids Proline, Leucine, Serine. State the possible mRNA and DNA. There could be different answers

mRNA

DNA

Proline

Leucine

Serine

16. Sketch the DNA molecule showing its structure and base pairing rule. State the 4 scientists who helped figure out the structure of DNA.