

## DNA & PROTEIN SYNTHESIS TEST REVIEW

1. Each DNA molecule has one \_\_\_\_\_ strand and one old strand.
2. Name the nucleotides found in DNA. \_\_\_\_\_
3. Name the nucleotides found in RNA. \_\_\_\_\_
4. A protein found in the cytoplasm contains 5 amino acids. How many nucleotides would be required in the mRNA for this polypeptide to be translated? \_\_\_\_\_
5. What is the function of messenger RNA? \_\_\_\_\_
6. What is the function of transfer RNA? \_\_\_\_\_
7. Diagram a nucleotide.
  
8. The process that results in DNA being duplicated is \_\_\_\_\_.
9. The process where messenger RNA is created from DNA is called \_\_\_\_\_.
10. A sequence of three nucleotide bases on the mRNA is called \_\_\_\_\_.
11. A sequence of three nucleotide bases on the tRNA is called \_\_\_\_\_.
12. DNA Replication occurs in which part of the cell? \_\_\_\_\_
13. Transcription occurs in which part of the cell? \_\_\_\_\_
14. If the amount of adenine in a DNA molecule is 20% then the amount of cytosine would be \_\_\_\_%
15. \_\_\_\_\_ is the process where amino acids are delivered to the mRNA to form proteins.
16. Describe the ways DNA and RNA are similar. \_\_\_\_\_
17. Describe the ways DNA and RNA are different. \_\_\_\_\_
18. What is the 5 carbon sugar found in DNA? \_\_\_\_\_
19. What is the 5 carbon sugar found in RNA? \_\_\_\_\_
20. A short segment of DNA that directs the formation of proteins is called a \_\_\_\_\_.
21. Thin, twisted threads of DNA that appear in non-dividing cells are known as \_\_\_\_\_.
22. \_\_\_\_\_ bonds join amino acids together to form a protein.
23. What is the start codon? \_\_\_\_\_
24. Diagram and label a chromosome.
  
25. Proteins are made from monomers called \_\_\_\_\_.
26. What is the job of RNA polymerase? \_\_\_\_\_
27. What determines your traits? \_\_\_\_\_

28. Given the following DNA sequences:

- i. **Separate** the bases into **codons** (by drawing a vertical line between them).
- ii. **Write** the **mRNA sequence** that would be made from the DNA.

A) TAC | GGA ACT CGCA AGTCCA ATT

B) TACAAACTCGGAGTAGATATT

\_\_\_\_\_

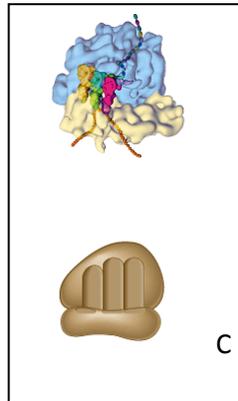
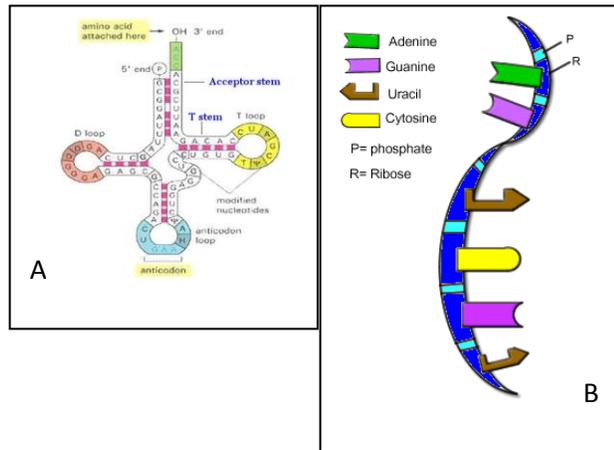
\_\_\_\_\_

29. What are the three types of RNA and what do they do and what are their jobs?

A. \_\_\_\_\_  
What does it do?

B. \_\_\_\_\_  
What does it do?

C. \_\_\_\_\_  
What does it do?



30. DNA → CCT CTT TAC ACA CGG AGG GTA CGC TAT TCT ATG ATT ACA CGG TTG ATT

mRNA →

tRNA →

Amino acid Sequence →

31. The regions of DNA that code for proteins are called \_\_\_\_\_.

32. Describe the steps of replication.

33. Describe the steps of transcription.

34. Describe the steps of translation.

35. \_\_\_\_\_ are proteins that must fit on bacteria and viruses to destroy them.
36. \_\_\_\_\_ are special proteins that recognize and bind to specific substrates to speed up chemical reactions.
37. Protein \_\_\_\_\_ move from one cell to another and bind to the membrane of the receiving cell
38. \_\_\_\_\_ is the process of unfolding a protein.