Biology 1
Chapter 10 Test
Study Guide
TEST DATE: _____

Name:
Date:
Hour:

Know the ***contributions*** to our current understanding of DNA made by each of the following scientists. Be familiar with any ***experiments*** performed by these scientists.

Frederick Griffith & Oswald Avery
Alfred Hershey & Martha Chase
Erwin Chargaff
Rosalind Franklin
James Watson & Francis Crick

Know the ***structure*** of DNA & RNA including the specifics about the following terms:

Nucleotide
Deoxyribose Sugar
Phosphate
and length of strands
Base Pairing
Adenine
Guanine
Thymine/Uracil
Cytosine
Hydrogen Bonds
Purines
Pyrimidines

Know all about the 2 jobs / 3 DNA processes.

DNA Function(s)

Job # 1 =	Replication
Job # 2 =	Transcription & Translation

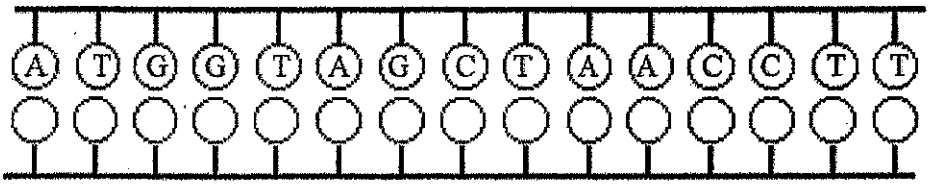
Know how the terms below relate to any/all DNA processes.

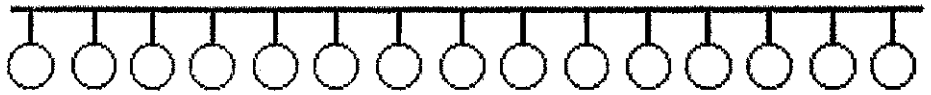
Semi-conservative	Nucleus
Cytoplasm/Ribosome	DNA polymerase
RNA polymerase	Codon/Anticodon
DNA	mRNA
Amino Acid	rRNA
Protein	tRNA

Finally... be prepared to assess DNA for 'errors' in these processes. Know your mutations!
(deletion/insertion/substitution/inversion/point vs. frameshift)

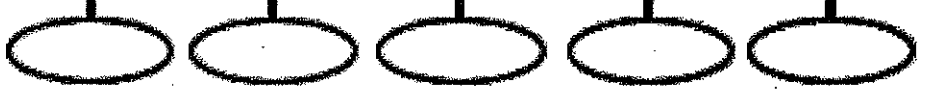
Protein Synthesis

Directions:
1st Fill in the complimentary DNA strand using DNA base pairing rules.
2nd Fill in the correct mRNA bases by transcribing the bottom DNA code.
3rd Translate the mRNA codons and find the correct amino acid using the Codon Table
4th Write in the amino acid and the correct anti-codon the tRNA molecule.
5th The answer to the questions about protein synthesis below the amino acids.

1. 

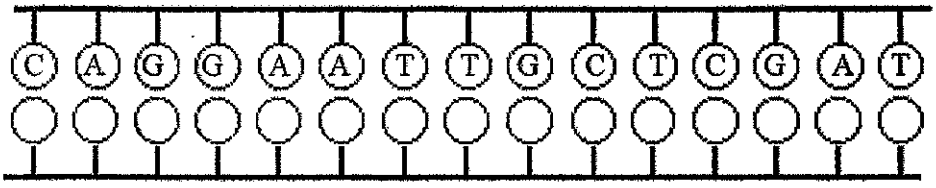
2. 

3. 

4. 

5. mRNA is synthesized in <u>translation</u> or <u>transcription?</u>

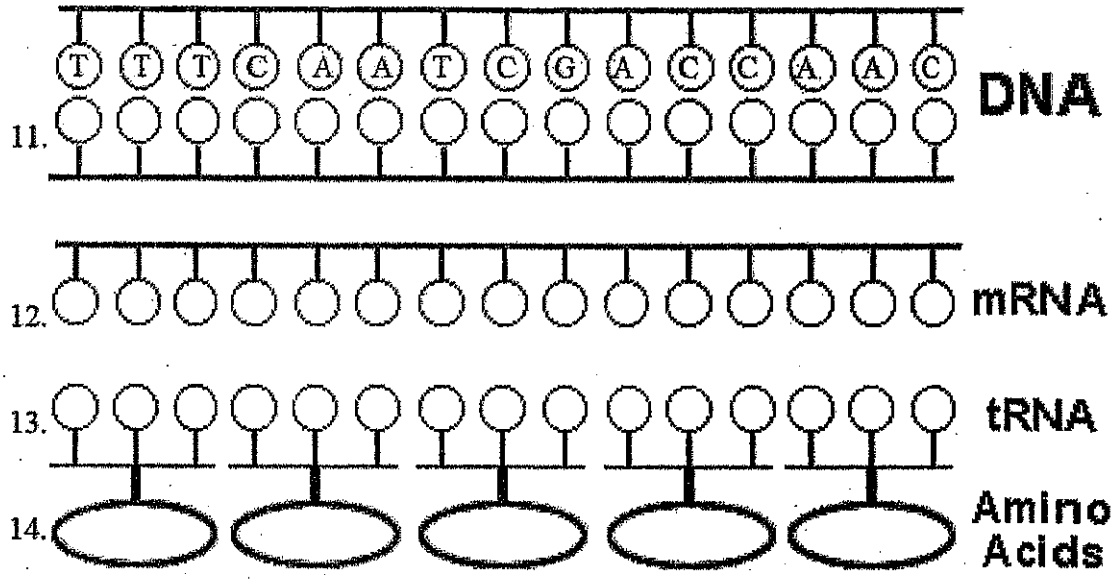
6. mRNA has <u>codons</u> or <u>anti-codons?</u>

7. 

8. 

9. 

10. 



15. 1 or 3 codons equal one amino acid?

16. tRNA brings amino acids to the nucleus or ribosome?

17. A polypeptide is a sequence of proteins or amino acids?

18. tRNA has codons or anti-codons?

19. tRNA transfers amino acids during translation or transcription?

20. Ribosomes are the site where translation or transcription takes place?