

Unit 5 Test Review

Name: _____ Date: _____ Hour: _____ Test #: _____

1. Define each of the following words:

- a. DNA: _____

- b. Nucleotide: _____

- c. Purine: _____

- d. Pyrimidine: _____

- e. RNA: _____

- f. Anticodon: _____

- g. Transcription: _____

- h. Translation: _____

- i. Triplet Codon: _____

- j. Nucleic Acids: _____

- k. Amino Acids: _____

- l. Ribosomes: _____

2. Describe the structure of DNA. _____

3. How are nucleic acids named? _____

4. Explain the significance of each of the following scientists:

- a. Watson and Crick: _____

- b. Fredrick Griffith: _____

- c. Rosalind Franklin: _____

- d. Erwin Chargaff: _____

5. What are the base pairing rules in DNA? _____

6. Describe the role of the following enzymes in DNA replication:

- a. DNA Polymerase: _____

- b. Helicase: _____

7. Briefly list the steps of DNA replication.

- a. _____

- b. _____

- c. _____

- d. _____

- e. _____

- f. _____

8. What would be the complementary strand to CCTAGCTA in DNA? _____

9. Name the three types of RNA and describe their functions.

- a. _____

- b. _____

- c. _____

10. What are the three differences between RNA and DNA? _____

11. What is the name of the organelle where protein synthesis occurs? _____

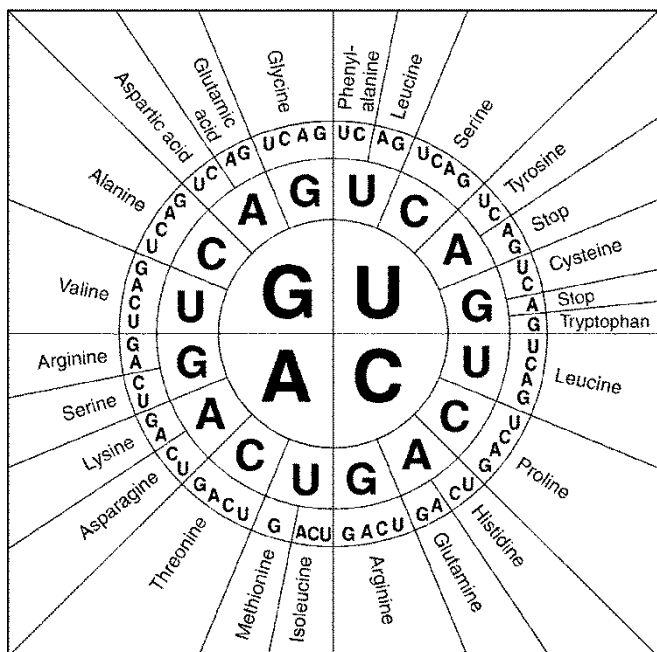
12. What are the main steps of transcription? _____

13. What are the main steps in translation? _____

14. What is the function of RNA polymerase? _____

15. Use the mRNA Codon Chart to complete the DNA triplets, mRNA codons, tRNA anticodons, and amino acids in the table below.

| DNA Triplet | mRNA codon | tRNA anticodon | Amino Acid |
|-------------|------------|----------------|------------|
| | AAG | | |
| GGC | | | |
| | CAG | | |
| | | UUA | |
| AAA | | | |
| GTG | | | |
| | | CUC | |
| | ACA | | |
| TAT | | | |
| | AGC | | |
| | | AUU | |
| CCA | | | |
| | | GGC | |



| | | Second Position | | | | |
|-------------------------|---|--|--------------------------------------|--|---|------------------|
| | | U | C | A | G | |
| First Position [5' end] | U | UUU } Phe UUC } UUA } Leu UUG } | UCU } Ser UCC } UCA } UCG } | UAU } Tyr UAC } UAA } Stop UAG } Stop | UGU } Cys UGC } UGA } Stop UGG } Trp | U C A G |
| | C | CUU } Leu CUC } CUA } CUG } | CCU } Pro CCC } CCA } CCG } | CAU } His CAC } CAA } Gln CAG } | CGU } Arg CGC } CGA } CGG } | U C A G |
| | A | AUU } Ile AUC } AUA } AUG } Met | ACU } Thr ACC } ACA } ACG } | AAU } Asn AAC } AAA } Lys AAG } | AGU } Ser AGC } AGA } Arg AGG } | U C A G |
| | G | GUU } Val GUC } GUA } GUG } | GCU } Ala GCC } GCA } GCG } | GAU } Asp GAC } GAA } Glu GAG } | GGU } Gly GGC } GGA } GGG } | U C A G |

Third Position [3' end]