Chapter 11 Study Guide

1. What does DNA stand for?

2. What is the monomer of DNA?

3. List the 3 parts of a nucleotide.

4. List the 4 nitrogen bases found in DNA and discuss how they pair up.

5. Nitrogen bases in DNA are held together by ___ bonds.

6. The double helix shape of DNA was first described in 1953 by ___ & ___.

7. The process of copying the DNA molecule is called ___ ___. Briefly describe this process.

8. Briefly explain why DNA replication is necessary.

9. The result of DNA replication is two new ___ molecules, each with one strand from the original parent and one new strand

10. List the 2 main steps or stages in protein synthesis

11. 20 different ___ ___ link together to form chains. A protein is composed of one or more of these polypeptide chains, which are twisted and folded into a particular shape.

12. List 3 ways RNA is different from DNA.

13. Write the RNA bases that will base pair to this section of DNA during transcription:
A T T C A G C A T C C G

14. Name the 3 types of RNA described below (transfer, ribosomal, or messenger):

    a) Transcribes the DNA code

    b) Primary component of the ribosome

    c) Carries an amino acid into position during translation

15. Where does transcription take place? What is formed from this process?

16. RNA ___ unzips the DNA during transcription.

17. Where does the mRNA transcript go when it exits the nucleus?

18. A 3-base "word" on mRNA that codes for one amino acid is a ___ .

19. What is the purpose of tRNA during translation?

20. Use the codon chart on my website to determine the amino acid coded for by the mRNA codon UCA.

21. Describe the 3 types of mutations. Specify if they are substitute or frame shift mutations.