

## Protein Synthesis Review Worksheet

1. In DNA, adenine binds with \_\_\_\_\_ and guanine binds with \_\_\_\_\_.
2. In RNA, adenine binds with \_\_\_\_\_ and guanine binds with \_\_\_\_\_.
3. Name the 4 nitrogen bases on DNA. Name the 4 nitrogenous bases in RNA.
4. Transcription takes place in the \_\_\_\_\_; translation takes place in the \_\_\_\_\_.
5. The building blocks of proteins are \_\_\_\_\_.
6. The \_\_\_\_-RNA is "read" and a protein is assembled in a process called \_\_\_\_\_.
7. The building blocks of proteins are \_\_\_\_\_, so another form of RNA is necessary to deliver those building blocks to the site of protein synthesis. This is \_\_\_\_\_ RNA.
8. What codon starts protein synthesis?
9. What codons stop protein synthesis?
10. 1 or 3 codons equal an amino acid?
11. 1 or 3 bases equal an amino acid?

12. For the strand of DNA listed below write out the RNA strand and the polypeptide (amino acids) encoded by the strand. Circle the start codon.

G T A G C G T A C A G C T G A C G A A C G T G C A T T G C G A C G

13. Name the amino acid coded for by each of these codons:

- a. UUA
- b. AUU
- c. UGU
- d. AAA
- e. GAG
- f. UAA

14. Proteins are synthesized (made) at what organelle in the cytoplasm?

15. What would the translation of these mRNA transcripts produce?

- a. UAA CAA GGA GCA UCC
  
- b. UGA CCC GAU UUC AGC