

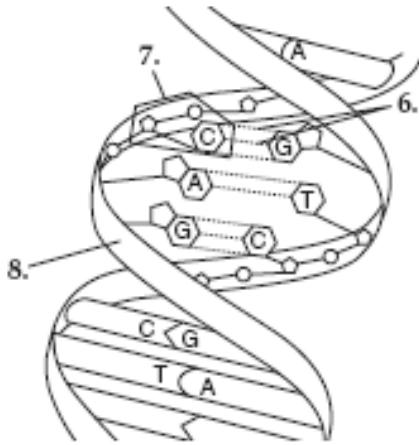
Name \_\_\_\_\_

Class \_\_\_\_\_

Date \_\_\_\_\_

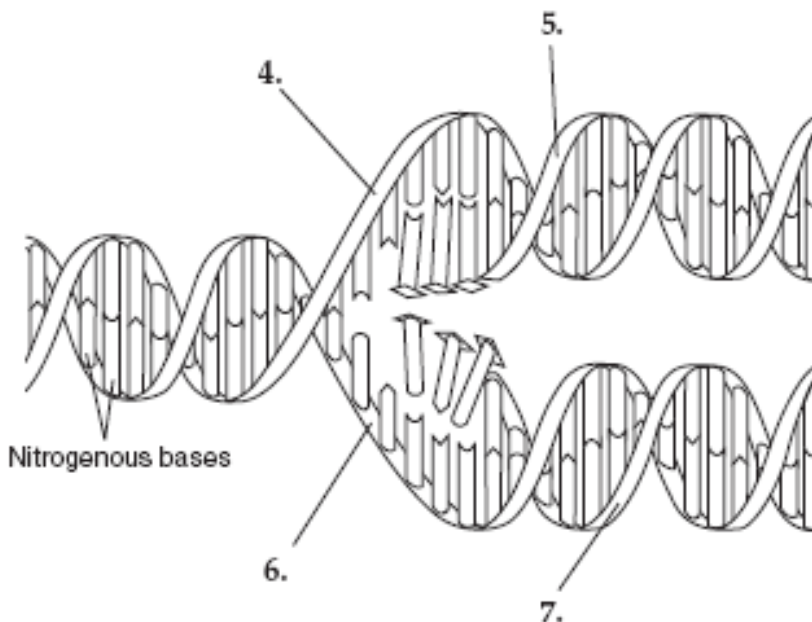
DNA Wkst

- 1) Label the following parts of the DNA molecule below: hydrogen bond, nucleotide, sugar-phosphate backbone



6. \_\_\_\_\_  
7. \_\_\_\_\_  
8. \_\_\_\_\_

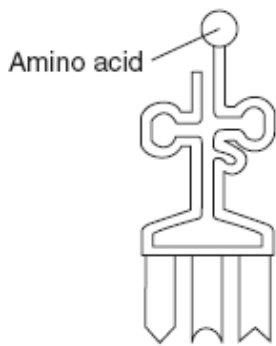
- 2) Using Chargaff's rule, calculate the percentage of guanine in a DNA molecule if 28% of the nucleotides are adenine. \_\_\_\_\_
- 3) During DNA replication, the DNA molecule (separates/combines) into two strands.
- 4) At the end of DNA replication, (four/two) new strands of DNA have been produced, giving a total of (four/six) strands of DNA.
- 5) New DNA is replicated in strands complementary to old DNA because production of new DNA follows \_\_\_\_\_
- 6) **One the diagram below, write whether the strand pointed to is an original (template) strand or a new strand**



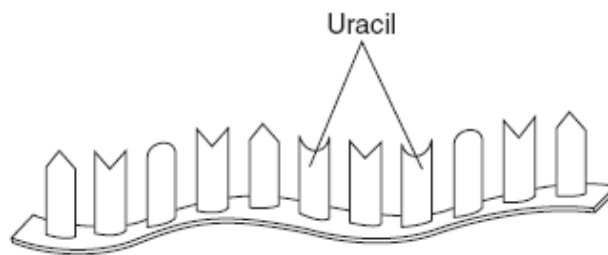
4. \_\_\_\_\_  
5. \_\_\_\_\_  
6. \_\_\_\_\_  
7. \_\_\_\_\_

- 7) The three main types of RNA are \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
- 8) Copying part of a nucleotide sequence of DNA into a complementary sequence in RNA is called \_\_\_\_\_.
- 9) An enzyme that binds to DNA during transcription is RNA \_\_\_\_\_.
- 10) During the process of \_\_\_\_\_, the information carried by mRNA is used to produce proteins.
- 11) Each tRNA molecule contains three bases, called the \_\_\_\_\_, which ensure that amino acids are added in the correct sequence.
- 12) What amino acids would be produced from the mRNA sequence CGCUAUAGC?  
\_\_\_\_\_
- 13) Suppose the DNA sequence GCTATATCG was changed to GCGATATCG. How would the products of transcription and translation be affected?  
\_\_\_\_\_
- 14) When genetic information is altered in the DNA sequence, it's called \_\_\_\_\_.
- 15) Changes in the DNA sequence of a single gene are called \_\_\_\_\_.
- 16) The DNA sequence of an entire chromosome is affected by a(an) \_\_\_\_\_.

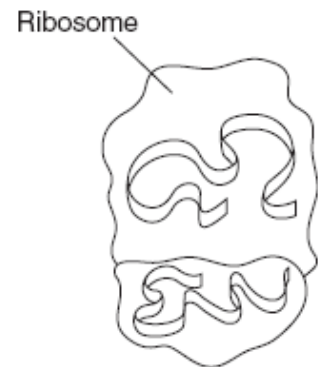
17) Identify each type of RNA below



1. \_\_\_\_\_



2. \_\_\_\_\_



3. \_\_\_\_\_

- 18) A(an) \_\_\_\_\_ is made up of three parts: a deoxyribose molecule, a phosphate group, and a nitrogenous base.
- 19) The principle of \_\_\_\_\_ states that hydrogen bonds can form only between certain bases in DNA.
- 20) Instructions for assembling amino acids into proteins are carried in \_\_\_\_\_.
- 21) The enzyme that uses one strand of DNA as a template to assemble nucleotides into a strand of RNA is called \_\_\_\_\_.