

DNA and RNA Structure Assignment

I. Multiple Choices

- Which of the following statements is true regarding DNA structure?
 - In DNA, purines pair together and pyrimidines pair together.
 - DNA is single-stranded.
 - DNA forms a double helix.
 - DNA is composed of amino acids.

- Which statement is TRUE regarding DNA and RNA?
 - DNA's sugar is ribose; RNA's sugar is deoxyribose
 - DNA is single stranded; RNA is double stranded
 - DNA contains thymine; RNA contains uracil
 - DNA is in cytoplasm; RNA is in nucleus

- Which 2 molecules form the sides (backbone) of the DNA ladder?
 - Deoxyribose sugar and adenine
 - Deoxyribose sugar and a hydrogen bond
 - Deoxyribose sugar and the nucleus
 - Deoxyribose sugar and phosphate.

- In a double-stranded DNA, 30% of the nitrogenous bases are adenine.
What is the percentage of the guanine bases?
 - 80%
 - 70%
 - 20%
 - 30%

- Which of the following strands are complementary DNA sequences?
 - 5'- CCGGAT -3' and 5'- ATCCCG -3'
 - 5'- CTGTCA -3' and 5'- TGACAG -3'
 - 5'- TGTCAG -3' and 5'- GACAGT -3'
 - 5'- CUTGCG -3' and 5'- CGCUTG -3'

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II. Put true or false.

- 1. DNA and tRNA are both double helices. ()
- 2. Complementary bases are held together by phosphodiester bonds. ()
- 3. In each nucleotide, the nitrogenous base is attached to the phosphate group. ()

III. Name and give the function of each type of RNA molecules.

IV. What is the phosphodiester bond?
