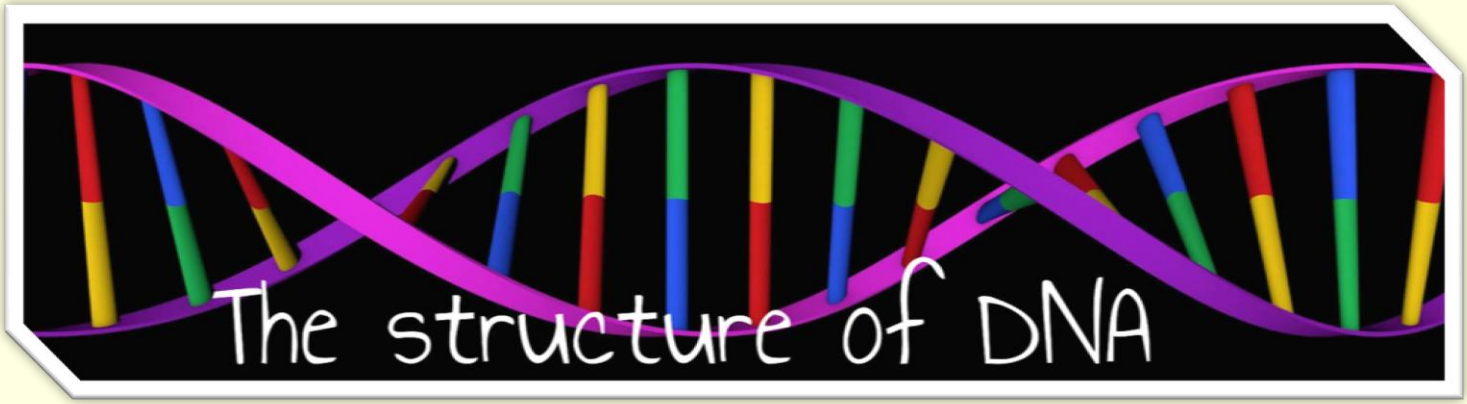


Answer all the questions below then check your answers

1: What is the sugar molecule present in DNA?

A) Ribose B) Glucose C) Deoxyribose D) Fructose

2: Which scientists proposed the double helix model of DNA?

A) Mendel and Darwin B) Watson and Crick

C) Franklin and Wilkins D) Pasteur and Koch

True or False

3: DNA is a monomer.

4: Guanine pairs with cytosine in DNA.

Fill-in-the-Blanks to complete the sentence below:

5: The two strands of DNA run in _____ directions.

6: The weak bonds between complementary bases in separate DNA strands are _____ bonds.

7: Match the bases to their complementary pairs.

Base
Adenine
Cytosine

Complementary base
thymine
guanine

8: Describe the three components of a nucleotide.

9: What is the difference between a nucleoside and a nucleotide?

10: Arrange these structures from simplest to most complex:

A) Double helix B) Nucleotide C) DNA strand

11: If one strand of DNA has the sequence A-T-C-G, what is the complementary strand?

12: How would the absence of thymine affect the DNA structure?

13: Why is DNA described as a "polymer"?

14: Ribose supplements are marketed to athletes. How does ribose differ structurally from the sugar in DNA?

Answers

What is the sugar molecule present in DNA?

A) Ribose B) Glucose C) Deoxyribose D) Fructose

Answer: C) Deoxyribose

2: Which scientists proposed the double helix model of DNA?

A) Mendel and Darwin B) Watson and Crick

C) Franklin and Wilkins D) Pasteur and Koch

Answer: B) Watson and Crick

True or False

3: DNA is a monomer.

Answer: False (DNA is a polymer made of nucleotide monomers).

4: Guanine pairs with cytosine in DNA.

Answer: True

Fill-in-the-Blanks to complete the sentence below:

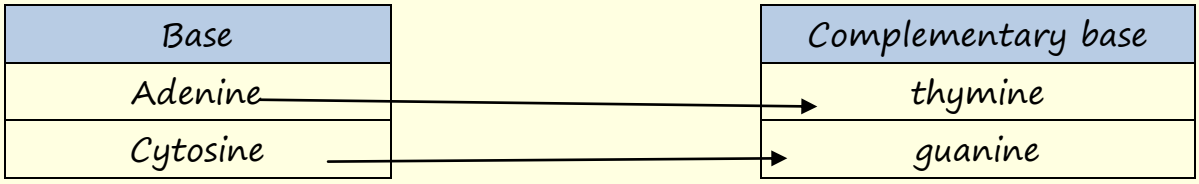
5: The two strands of DNA run in _____ directions.

Answer: Opposite (antiparallel).

6: The weak bonds between complementary bases in separate DNA strands are _____ bonds.

Answer: intermolecular

7: Match the bases to their complementary pairs.



8: Describe the three components of a nucleotide.

Answer: A nucleotide consists of a sugar (deoxyribose in DNA), a phosphate group, and one of four nitrogenous bases (A, T, C, or G).

9: What is the difference between a nucleoside and a nucleotide?

Answer: A nucleoside contains a sugar and a base, whereas a nucleotide includes a phosphate group in addition.

10: Arrange these structures from simplest to most complex:

A) Double helix B) Nucleotide C) DNA strand

Answer: (Nucleotide) → (DNA strand) → (Double helix).

11: If one strand of DNA has the sequence A-T-C-G, what is the complementary strand?

Answer: T-A-G-C

12: How would the absence of thymine affect the DNA structure?

Answer: Adenine would have no complementary base to pair with, disrupting the double helix and genetic coding.

13: Why is DNA described as a "polymer"?

Answer: It is made of repeating monomer units (nucleotides) linked through condensation reactions.

14: Ribose supplements are marketed to athletes. How does ribose differ structurally from the sugar in DNA?

Answer: Ribose has an extra oxygen atom on carbon 2 compared to deoxyribose.