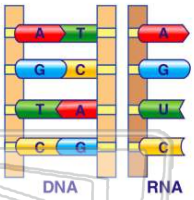
Nucleic acids and protein synthesis

BIO

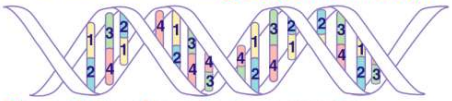
Name _____ Class _____ Date _____

1 Which substance is present in **some** of the nucleotides of **DNA** molecules, but **not** in those of **RNA** molecules?

A adenine
B cytosine
C thymine
D ribose



2 The diagram below represents a section of a molecule that carries **genetic information**.



The pattern of numbers represents

A a sequence of paired bases
B the order of proteins in a gene
C folds of an amino acid
D positions of gene mutations

3 Which statement best describes the **relationship** between cells, DNA, and proteins?

A Cells contain DNA that controls the production of proteins.
B DNA is composed of proteins that carry coded information for how cells function.
C Proteins are used to produce cells that link amino acids together into DNA.
D

4 Which **sequence of terms** represents a **decrease** from the greatest number of structures to the least number of structures present in a cell?

A nucleus → gene → chromosome
B gene → nucleus → chromosome
C
D

5

7

B The amino acid sequence may be altered during protein synthesis.
C The chromosome number will decrease in future generations.
D The chromosome number may increase within the organisms.

A having a different cell type from each parent
B mutations in embryo cells
C new cells resulting from meiosis
D certain genes being expressed in some cells and not in others

9 A **change** in the **base subunit sequence** during DNA replication can result in

A variation within an organism
B rapid evolution of an organism
C synthesis of antigens to protect the cell
D recombination of genes within the cell

10 **Two proteins** in the same cell perform different functions. This is because the two proteins are composed of

A chains folded the same way and the same sequence of simple sugars
B chains folded the same way and the same sequence of amino acids
C chains folded differently and a different sequence of simple sugars
D chains folded differently and a different sequence of amino acids

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ANSWER KEY

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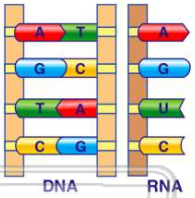
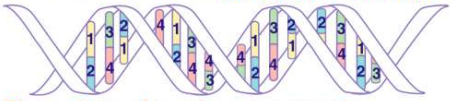


c

The diagram below represents a section of a molecule that carries **genetic information.**



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A Cells contain DNA that controls the production of proteins.
B DNA is composed of proteins that carry coded information for how cells function.
C Proteins are used to produce cells that link amino acids together into DNA.
D Cells are linked together by proteins to

a

Which **sequence of terms** represents a **decrease** from the greatest number of structures to the least number of structures present in a cell?

A nucleus → gene → chromosome
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C gene → chromosome → nucleus
D chromosome → gene → nucleus

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during protein synthesis.
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A **change** in the **base subunit sequence** during DNA replication can result in

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d