DNA Practice Questions

1. If 15% of a DNA sample is made up of thymine, T, what percentage of the sample is made up of adenine, A?
   1) 15%
   2) 35%
   3) 70%
   4) 85%

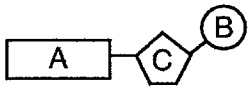
2. Which molecule is correctly paired with its building blocks?
   1) cellulose – polypeptides
   2) DNA – nucleotides
   3) protein – monosaccharides
   4) fat – disaccharides

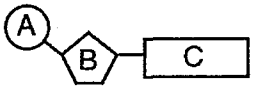
3. In addition to a phosphate group, a DNA nucleotide could contain
   1) thymine and deoxyribose
   2) uracil and deoxyribose
   3) thymine and ribose
   4) uracil and ribose

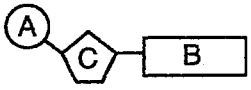
4. The parts of a DNA nucleotide are indicated in the chart below by letters *A*, *B*, and *C*, An X indicates which chemical elements are present in each part.

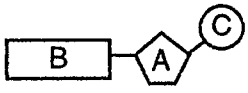
DNA Nucleotide Parts	Elements				
	C	O	H	N	P
A		X	X		X
B	X	X	X		
C	X	X	X	X	

Which diagram best represents a DNA nucleotide.

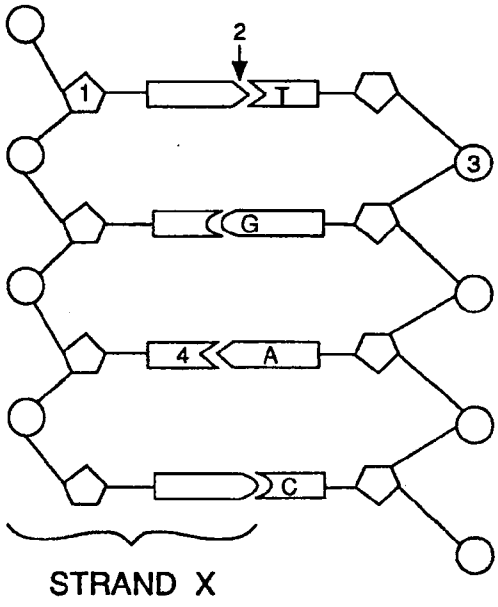
1)


2)


3)


4)


Base your answers to questions **5** through **9** on the diagram below of a DNA molecule and on your knowledge of biology.



5. Structure 3 represents a
   1) phosphate
   2) deoxyribose sugar
   3) ribose sugar
   4) base

6. The base sequence of strand *X* is
   1) C-A-T-G
   2) A-C-G-T
   3) A-C-T-G
   4) G-C-T-A

7. Which substances would *not* be found in RNA?
   1) 1 and 4
   2) 1 and C
   3) 3 and 1
   4) 3 and G

8. Which activity occurs in the process of replication?
   1) Structure 1 is hydrolyzed.
   2) A chemical bond is broken in region 2.
   3) Structure 3 is synthesized.
   4) Proteins are formed in region 2.

9. A change in the sequence of T, G, A, and C would result in
   1) nondisjunction
   2) polyploidy
   3) a sex-linked gene
   4) a gene mutation

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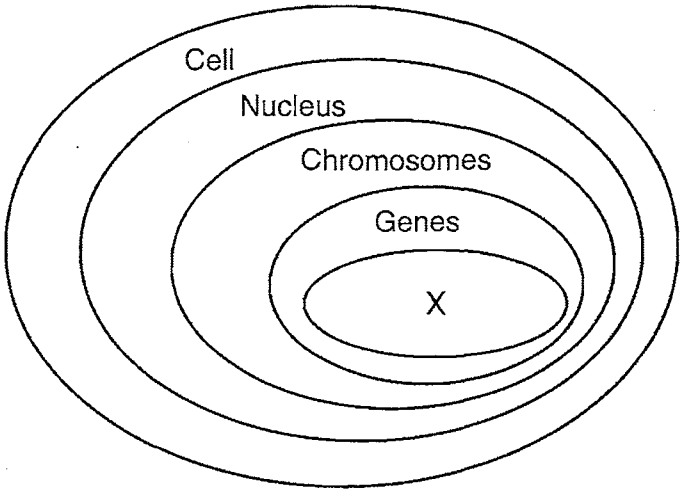
10. The coded information of a DNA molecule is determined by the
    1) sequence of amino acids
    2) number of ribose units
    3) sequence of the nitrogenous bases
    4) sequence of the sugar-phosphate units

DNA Practice Questions

11. The diagram below represents levels of organization within a cell of a multicellular organism.



The level represented by X is composed of

1) four types of base subunits (A,T,C,G)
2) folded chains of glucose molecules
3) twenty different kinds of amino acids
4) complex, energy-rich inorganic molecule