Quiz: Protein Synthesis

Read each question. Circle the letter of the correct answer.

1. Proteins are made up of _____.

A. ATP

B. catalysts

C. amino acids

D. enzymes

2. During transcription, _____.

A. translation occurs

B. RNA is produced

C. DNA is replicated

D. proteins are synthesized

3. In translation, which of these is responsible for forming a peptide bond?

A. DNA

B. tRNA

C. nucleus

D. ribosome

4. At the very beginning of translation, the first tRNA molecule _____.

A. binds to the mRNA's anticodon

B. binds to the mRNA's start codon

C. attaches directly to the DNA codon

D. connects an amino acid to its anticodon

5. In order to produce all the protein that a cell needs, transcription takes place _____.

A. using single-stranded RNA

B. using double-stranded RNA

C. on a gene segment only once

D. on a gene segment over and over again

6. What is the name for the portion of the DNA that codes for a specific protein?

A. gene

B. chromosome

C. histone

D. nucleotide

7. A codon is a _____.

A. protein that blocks DNA transcription

B. segment of DNA that speeds up transcription

C. three-nucleotide sequence that codes for an amino acid

D. DNA segment that allows a gene to be transcribed

8. Which of the following statements is not correct concerning DNA and RNA?

A. Both DNA and RNA contain the base cytosine.

B. Both RNA and DNA are double-stranded molecules.

C. RNA contains the base uracil while DNA contains thymine.

D. DNA contains a sugar named deoxyribose while RNA contains a sugar named ribose.

9. RNA differs from DNA in that RNA _____.

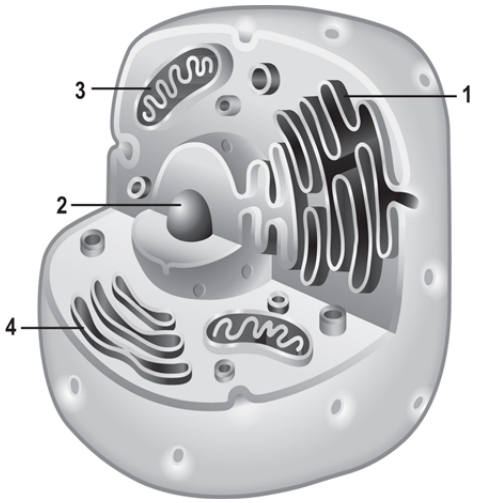
A. is double-stranded

B. contains deoxyribose

C. does not contain adenine

D. contains the nitrogen base uracil

10. The diagram shows an animal cell.



Which structure produces vesicles filled with proteins?

A. structure 1

B. structure 2

C. structure 3

D. structure 4

Read each statement. Write your answer on the lines.

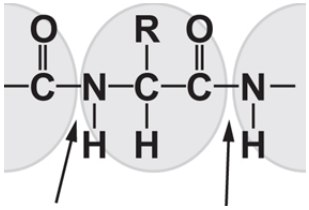
11. Give an example of a change in DNA that would cause a frameshift mutation.

12. What specific role do ribosomes play in the production of proteins?

13. After replication, how do the nucleotide sequences in both DNA molecules compare with each other?

14. A scientist analyzing a molecule finds that it contains a uracil nitrogen base. Is the molecule DNA or RNA?

15. Use the diagram to answer the question.



What can happen if there is one wrong amino acid in a protein?