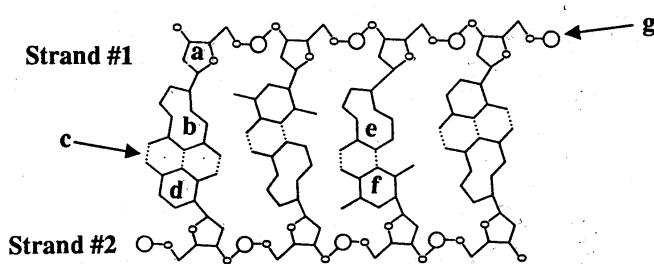


Molecular Genetics Quiz

PLEASE DO NOT WRITE ON THIS COPY OF THE QUIZ. WRITE ALL ANSWERS ON THE ANSWER SHEET!

1. DNA stands for (a) nucleic acid and RNA stands for (b) nucleic acid.
2. The sugar of RNA is (a) and the sugar of DNA is (b) .
3. DNA is (a) stranded and RNA is (b) stranded,
4. RNA has (a) as a nitrogen base instead of (b) which is found in DNA.
5. DNA replication is considered to be a process _____.
6. Purines are ____ ringed nitrogen bases.
7. Pyrimidines are ____ ringed nitrogen bases.
8. Guanine and adenine are examples of _____.
9. Uracil, cytosine, and thymine are examples of _____.
10. Label the various parts of the DNA molecule below.



11. Strand #1 runs in what direction ($3' \rightarrow 5'$, $3' \leftarrow 5'$, $5' \rightarrow 3'$, or $5' \leftarrow 3'$)?
12. Strand #2 runs in what direction ($3' \rightarrow 5'$, $3' \leftarrow 5'$, $5' \rightarrow 3'$, or $5' \leftarrow 3'$)?
13. The two strands of DNA are said to be _____ to each other.
14. List the full names of the three types of RNA (don't use abbreviations like rRNA).
15. What is the relationship between DNA and chromosomes?
16. Complete the mRNA strand, tRNA strand, and the code.
17. Which type of RNA copies DNA?
18. Which type of RNA has an amino acid attached to it?
19. Which type of RNA assembles ribosomes?
20. The first amino acid of every protein is _____.
21. The first major step of protein synthesis is (a) and the second step is called (b) .
22. The steps to translation in order are (a) , (b) , and (c) .
23. The first codon of every protein is (a) and it found on a (b) RNA.
24. The first anti-codon of every protein is (a) and it found on a (b) RNA.
25. The structure of a DNA molecule can be described as a _____ .

Grade: ____/80

Review: Yes / No (20 pts)

Name:

Period:

Date:

Molecular Genetics Quiz

Answer Sheet

- 1.(a) _____
(b) _____
- 2.(a) _____
(b) _____
- 3.(a) _____
(b) _____
- 4.(a) _____
(b) _____
5. _____
6. _____
7. _____
8. _____
9. _____
- 10.(a) _____
(b) _____
(c) _____
(d) _____
(e) _____
(f) _____
(g) _____
11. _____
12. _____
13. _____
- 14.(a) _____
(b) _____
(c) _____
15. _____

17. _____
18. _____
19. _____
20. _____
- 21.(a) _____
(b) _____
- 22.(a) _____
(b) _____
(c) _____
- 23.(a) _____
(b) _____
- 24.(a) _____
(b) _____
25. _____

		2nd base in codon				
		U	C	A	G	
1st base in codon	U	Phe Phe Leu Leu	Ser Ser Ser Ser	Tyr Tyr STOP STOP	Cys Cys STOP Trp	U C A G
	C	Leu Leu Leu Leu	Pro Pro Pro Pro	His His Gln Gln	Arg Arg Arg Arg	U C A G
	A	Asn Asn Asn Met	Thr Thr Thr Thr	Asn Asn Lys Lys	Ser Ser Arg Arg	U C A G
	G	Val Val Val Val	Ala Ala Ala Ala	Asp Asp Glu Glu	Gly Gly Gly Gly	U C A G
						3rd base in codon

16. **DNA: TAC/TGG/AAC/GTT/CAG/ACT**

mRNA: / / / / /

tRNA: / / / / /

a.a. seq: / / / / /