

DNA/RNA CHAPTER REVIEW

1. What is DNA? What does it do?
2. What do the letters DNA stand for?
3. What are the 3 parts of a nucleotide in DNA?
4. The sides of a DNA double helix are made up of what two parts?
5. What are the four nitrogen bases in a DNA nucleotide? Which bases match together?
6. What is the official shape of DNA?
7. The process in which your DNA copies itself is known as what?
8. Explain how DNA copies itself.
9. What is the difference between the "leading strand" and the "lagging strand" during DNA replication?
10. What chemical helps to unwind the double helix during DNA replication?
11. During replication, the nitrogen bases match like...
A = ? T = ? C = ? G = ?
14. After replication, how many copies of DNA do you have?
15. All of the letters found on DNA is a code to help make what type of molecule in the end?
16. What does RNA stand for?
17. What are at least three differences between DNA and RNA?
18. When matching DNA to RNA, give the following pairs...
a. DNA = A,T,G,C / RNA = ?,?,?,?
19. Which type of RNA reads the DNA and delivers the message to the ribosome?
20. Which type of RNA takes the message and helps to assemble the parts?
21. Which type of RNA delivers the amino acids and assembles them in the right order?
22. The process of mRNA reading the DNA is known as what?
a. Explain how this process works.
23. Every three letters on mRNA is known as...
24. The process of decoding mRNA into amino acids is known as what?
25. Using your decoding chart, transcribe (DNA to mRNA) and translate (mRNA codons to Amino Acids) the following...
DNA: T A C T C C T G A C C A T C C T T T T G C G T C
mRNA:
Am. Acids:

DNA: T A C C C A G G A A C C A C T C C A G C T A A
 mRNA
 Am.
 Acids

- 26. What is the difference between a small scale and large scale mutation?
- 27. What can cause a mutation?
- 28. Name and explain the following large scale mutations...

a **A B C D E F G X Y Z**

a

b **A B E D C F G**

b

c **A B C A B C D E F G**

c

d **A B C F G**

d

- 29. What is a nondisjunction mutation? Give an example.
- 30. Explain what a point mutation is. Give an example.
- 31. Explain what a frameshift mutation is. Give an example.
- 32. Which of the previous two mutations are worse? Explain why.
- 32. Original DNA Sequence: T A C A C C T T G G C G A C G A C T
 Mutated DNA Sequence: T A C G A C C T T G G C G A C G A C T
 What kind of mutation is shown above?
- 33. Original DNA Sequence: T A C A C C T T G G C G A C G A C T
 Mutated DNA Sequence: T A C A C C T T G G C G A C T A C T
 What kind of mutation is shown above?

