

DNA Review

Name _____

Must be 100% complete to take the test on Wednesday!!

DNA Structure – Chapter 12

1. What are the four bases of DNA (know the first letters and the entire words)?
2. What are the 3 parts of a nucleotide?
3. What molecules make up the “backbone” of DNA?
4. Which bases are purines? How many sugar rings are purines made up of?
5. Which bases are pyrimidines? How many sugar rings are pyrimidines made up of?
6. Who proposed the current model for DNA structure?
7. What are the base pairing rules (which bases bond with which bases)?
8. What type of bond holds the bases together in DNA?

DNA Replication – Chapter 12

9. Describe the process of DNA replication?
10. What is the end result of DNA replication?
11. What does the enzyme helicase do?
12. What does the enzyme DNA polymerase do?

13. Where in the cell does DNA replication take place?

RNA and Transcription – Chapter 13

14. How is RNA different from DNA? Name at least 3 differences.

15. What base is not present in RNA that is present in DNA? Which base is in RNA instead?

16. What are the three types of RNA and what does each do?

17. What is transcription?

18. Where in the cell does transcription take place?

Protein Synthesis – Chapter 13

19. What is translation?

20. Where in the cell does translation take place?

21. Each set of three nitrogen bases on a mRNA strand is know as what?

22. What molecule are codons associated with, tRNA or mRNA?

23. What are anti-codons? What molecule are anti-codons associated with, tRNA or mRNA?

24. How is the sequence of protein assembled. Explain in steps what happens beginning with DNA and ending with a polypeptide chain?

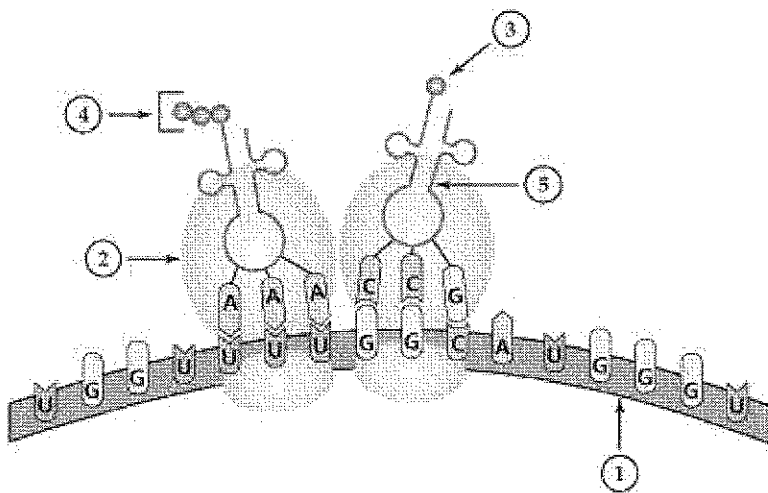
25. What is the start codon?

26. What attaches to each side of a tRNA molecule?

27. How many different amino acids are there?

28. Can there be more than one codon for a specific amino acid?

29. Label the following diagram.



Mutations – Chapter 13

30. What is a mutation?

31. What is a substitution mutation?

32. What is a deletion mutation?

33. What is an insertion mutation?

34. Which types of mutation causes a frameshift mutation?

35. Are all mutations harmful?

Fill out the following chart using your codon table.

Transcribing and Translating of a DNA sequence			
DNA Bases	mRNA Base Code	tRNA Base Code	Amino Acid Sequence
AAT			
GGG			
ATA			
AAA			
GTT			