

Name \_\_\_\_\_ hour \_\_\_\_\_

## UNIT 9: Ch 12-1 & 12-2 TEST REVIEW

1. The building blocks of DNA are \_\_\_\_\_
2. The three parts of the building blocks are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_
3. Describe the structure of DNA. \_\_\_\_\_ or \_\_\_\_\_
4. What two molecules make up the back bone or the sides of the molecule? \_\_\_\_\_ & \_\_\_\_\_
5. What molecule makes up the steps (or the middle) of the molecule? \_\_\_\_\_
6. Describe where in the DNA molecule is the "code" located? \_\_\_\_\_
7. Name the four nitrogenous bases. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ & \_\_\_\_\_
8. What is the name of the process, where DNA makes a copy of itself? \_\_\_\_\_.

### The steps of replication-

9. 1<sup>st</sup> step- DNA \_\_\_\_\_
10. 2<sup>nd</sup> step- What enzyme breaks the bonds between the bases? \_\_\_\_\_ And what kind of bonds are between the base pairs? \_\_\_\_\_
11. 3<sup>rd</sup> step- What enzyme directs the correct nucleotide to the correct spot? \_\_\_\_\_  
What base matches with  
Adenine? \_\_\_\_\_ Cytosine? \_\_\_\_\_ Guanine? \_\_\_\_\_ Thymine \_\_\_\_\_
12. In the 4<sup>th</sup> step what happens to the ladder? \_\_\_\_\_
13. In the 5<sup>th</sup> step the DNA molecule \_\_\_\_\_ back into a \_\_\_\_\_
15. What molecule are genes made of? \_\_\_\_\_
16. The sites where separation and replication occur in DNA? \_\_\_\_\_
17. Does DNA replication occur in prokaryotes? \_\_\_\_\_ eukaryotes? \_\_\_\_\_
18. What consists of a phosphate, sugar and a nitrogen base? \_\_\_\_\_
19. What type of organism has DNA that is 1 meter in length? \_\_\_\_\_ 1.6mm? \_\_\_\_\_
20. This structure is responsible for folding DNA into compact spaces? \_\_\_\_\_
21. What organism has their DNA in a single circular strand? \_\_\_\_\_
22. Name the radioactive markers that Hershey and Chase used. \_\_\_\_\_ & \_\_\_\_\_
23. Another name for DNA and proteins that look like a tangled mass. \_\_\_\_\_
24. Round proteins that DNA wraps around? \_\_\_\_\_
25. Process that changes one bacteria into another? \_\_\_\_\_
26. DNA replication results in \_\_\_\_\_ DNA molecules, each with one \_\_\_\_\_ strand and one \_\_\_\_\_ strand.
27. A purine always pairs with a \_\_\_\_\_.
28. The length of prokaryotic DNA is approx \_\_\_\_\_ mm For human DNA the length is over \_\_\_\_\_ m
29. Base pairing means that the amount of \_\_\_\_\_ is always equal to the amount of \_\_\_\_\_ and the amount of \_\_\_\_\_ is equal to the amount of \_\_\_\_\_. Whose rule is this? \_\_\_\_\_

30. What would be the complementary sequence to the following DNA sequence A A T C G A A G G C T T A G C \_\_\_\_\_

How many base pair long is the DNA molecule in the question above? \_\_\_\_\_

31. Avery showed that transformation occurred by what molecule? \_\_\_\_\_

32. Where is DNA located in eukaryotic cells? \_\_\_\_\_

33. Name the two purines. \_\_\_\_\_ & \_\_\_\_\_ How many rings do purines have? \_\_\_\_\_

34. Name the two pyrimidines \_\_\_\_\_ & \_\_\_\_\_ How many rings do pyrimidine have? \_\_\_\_\_

35. Watson and Crick described the structure of DNA as a \_\_\_\_\_

36. EXPLAIN why it is important for our DNA to replicate before cell division?

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37. What does the "genetic code" have instructions for? \_\_\_\_\_

38. What are the rungs of the DNA ladder made of? \_\_\_\_\_

39. What are the sides of the DNA ladder made of? \_\_\_\_\_

**Which scientist(s)??**

**Avery   Franklin   Griffith   Hershey and Chase   Watson and Crick   Chargaff**

40. Stated that the amounts of A&T are equal and C&G are equal in DNA? \_\_\_\_\_

41. Used enzymes in bacterial experiments? \_\_\_\_\_

42. Used bacteriophages? \_\_\_\_\_

43. Wanted to determine how bacteria cause pneumonia? \_\_\_\_\_

44. Received Nobel Prize? \_\_\_\_\_

45. Discovered transformation? \_\_\_\_\_

46. Used radioactive markers? \_\_\_\_\_

47. Coined the term double helix? \_\_\_\_\_

48. Mixed rough and smooth bacteria? \_\_\_\_\_

49. Stated that DNA strands are complementary? \_\_\_\_\_

50. Used X-rays diffraction to study DNA? \_\_\_\_\_

51. Did experiments to support that genes are made of DNA? \_\_\_\_\_

52. Said that DNA was held together by hydrogen bonds? \_\_\_\_\_

53. Had a lab assistant named Wilkins? \_\_\_\_\_

54. What is the term that describes DNA replication and refers to the fact that one strand is "old" and one is "new"? \_\_\_\_\_

55. What is a thread like mass of DNA called? \_\_\_\_\_