

# Chapter 12

## DNA Study Guide

1. What is DNA? *copy of heredity info*
2. Name the base unit of DNA? *nucleotide*
3. What is the shape of DNA? *double helix*
4. Name the sugar in DNA? *deoxyribose*
5. Name the bases in DNA. *Adenine, Thymine, Cytosine, Guanine*
6. What makes up the sides of the double helix? *sugar + phosphate alternate*
7. What makes up the "rungs" of the (ladder) double helix? *bases*
8. Explain Chargaff's Rule. *A match to T G match to C*
9. What happened in Griffith's experiment? *transformation caused by DNA*
10. What did Avery prove?
11. What did Hershey and Chase prove?
12. What did Franklin find? *the shape of DNA*
13. What technique did she use? *X-ray diffraction*
14. What is Watson and Crick credited for? *discovery DNA*
15. What is antiparallel? *1 strand of DNA - other is opposite*
16. What does a prokaryotic DNA look like? Where is it in the cell? *in a ring; no nucleus*
17. What does a eukaryotic DNA look like? Where is it in the cell? *chromosomes, in nucleus*
18. List the 3 parts to DNA replication. *unwind, base pairing, joining*
19. When does DNA replication take place? *S phase of cell cycle*
20. Explain the Unwinding stage of DNA replication. *DNA helicase (enzyme) breaks bases bonds to unwind*
21. Explain the Pairing stage of DNA replication. *DNA polymerase (enzyme) adds complimentary base*
22. Explain the Joining stage of DNA replication. *DNA rewinds back up*
23. What is the purpose of DNA polymerase? *adds complimentary base A → T, G → C*
24. What is a telomere? *cap on end of chromosomes*
25. If the original DNA strand is TAC GGC ATC GAT, what is the replicated strand?  
*ATG CCG TAG CTA*

(over)