

1. What did the Griffith and Avery experiment show? Describe it.
2. What did the Hershey and Chase experiment show? Describe it.
3. What makes up the monomers nucleotides?
4. If DNA is pictured as a ladder, what makes up its rungs? What is attached on the outside of this ladder?
5. What is meant by saying that adenine and thymine are complementary bases, as are cytosine and guanine? Which are purines, and which are pyrimidines? Why does adenine only pair with thymine and guanine only with cytosine?
6. What is meant by saying that the DNA strands are "antiparallel?" What is meant by saying that these strands are in the 3' to 5' or 5' to 3' direction?
7. What did the Meselson-Stahl experiment show? Describe this.
8. Carefully describe the replication of DNA. Include in your description the following words:
 - helicases
 - topoisomerases
 - single binding proteins
 - RNA primer
 - RNA primase
 - DNA polymerase
 - leading and lagging strands
 - Okazaki fragments
 - ligase
 - proofreading
9. Since nucleic acids are synthesized in a 5' to 3' direction, what problem does this present during DNA replication?

Chapter 17

10. List the three types of RNA and give the function of each of these types.
11. What is a triplet code, or codon?
12. What is meant by saying that the triplet code is "degenerate?"
13. Describe transcription.
14. Describe translation.