

# BIO FINAL STUDY GUIDE

1. What does DNA stand for? \_\_\_\_\_
2. In 1928, British scientist \_\_\_\_\_, was trying to figure out how bacteria made people sick.
3. How did this scientist kill the bacteria? \_\_\_\_\_
4. What caused the mice to die in his experiments? \_\_\_\_\_
5. \_\_\_\_\_ is the process in which one strand of bacteria seemed to transfer into another strain.
6. Avery and other scientists discovered that the \_\_\_\_\_ stores and transmits the genetic information from one generation of an organism to the next.
7. American scientists, \_\_\_\_\_ and \_\_\_\_\_, studied a virus that infects bacteria called a \_\_\_\_\_. These virus consist of a \_\_\_\_\_ or \_\_\_\_\_ core and a \_\_\_\_\_ coat.
8. These two American scientists concluded that the genetic material of a bacteriophage was \_\_\_\_\_, and not protein.
9. Three things a gene needs to do is:
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
10. DNA is made up of units called \_\_\_\_\_, which are composed of three things:
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
11. There are four types of \_\_\_\_\_;
  - Purines:
    - \_\_\_\_\_
    - \_\_\_\_\_
  - Pyrimidines:
    - \_\_\_\_\_
    - \_\_\_\_\_
12. The DNA back bone is made of the \_\_\_\_\_ and \_\_\_\_\_ groups.
13. The four \_\_\_\_\_ of DNA were like the letters of the alphabet.
14. Chargaff's rule states the relationship between nucleotides. A purine pairs up with a pyrimidine. Adenine will always pair with \_\_\_\_\_. The purine Guanine always pairs with the pyrimidine \_\_\_\_\_.
15. In the 19850's, the British scientist \_\_\_\_\_ used X-ray diffraction to figure out some important clues about DNA structure, such as the fact that it was made of two strands and was in a twisted form.
16. Watson and Crick used clue's from the above scientist to make a model of DNA we call the \_\_\_\_\_, which consists of two strands twisted around each other.
17. The type of bond that holds nitrogenous bases together is called a \_\_\_\_\_.
18. This principle of nitrogenous bases pairing up with certain nitrogenous bases is called \_\_\_\_\_.
19. The process in which DNA copies itself before a cell divides is called \_\_\_\_\_, in which DNA separates its 2 strands, producing complementary strands following the rules of base-pairing. Each strand of the double helix serves as a template for new strands.
20. The enzyme that "unzips" the DNA strand is called \_\_\_\_\_.
21. RNA stands for \_\_\_\_\_.
22. In RNA the nitrogenous bases are the same as in DNA EXCEPT the pyrimidine thymine is replaced with \_\_\_\_\_, which is only found in RNA.
23. There are 3 types of RNA:
  - o \_\_\_\_\_; carry instructions to make amino acids
  - o \_\_\_\_\_; proteins combined with this RNA ribosomes
  - o \_\_\_\_\_; transfers amino acids to ribosomes to make protein
24. \_\_\_\_\_ are coded DNA instructions that control the production of proteins within the cell.
25.
 

DNA

transcription  
→

mRNA

translation  
→

protein

# Biology 2nd Semester Final Exam Study Guide

**S Ashworth**



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