

## Chapter 13 Test DNA

### Multiple Choice

1. Friedrich Miescher is credited with A. Discovering DNA helix B. Discovering Nucleic acid C. Discovering protein
2. When Fred Griffith injected mice with a mixture of dead, pathogenic, encapsulated S cells and living unencapsulated R cells of *Streptococcus pneumoniae*, he discovered that  
A. the previously harmless strain (S) had inherited the ability to kill mice.  
B. The dead mice teemed with living pathogenic (R) cells  
C. The killer strain (R) was encased in a protective capsule.
3. Fred Griffith's experiments  
A. Produced a vaccine against bacterial pneumonia. B. Provided evidence that genetic material from one bacterial culture could be transferred to another culture.
4. Bacteriophages are A. large bacteria B. Viruses C. Protistans
5. Adenine and guanine are A. Double-ringed purines B. Single-ringed pyrimidines
6. Rosalind Franklin used what technique of scientific research? A. X-ray diffraction  
B. Sonic sound C. Transformation
7. A nucleotide may contain A. Purine B. Pentose C. Phosphate group D. pyrimidine  
E. All of these.
8. Sulfur is A. found in proteins, but not nucleic acid B. Found in every cell part  
C. Used to study nucleotide formation
9. The building blocks of nucleic acids are A. Amino acids B. Nucleotides  
C. Pentose sugar
10. Nucleic acid contains A. Sulfur B. Phosphorus C. Iron
11. James Watson and Francis Crick A. Established the double-stranded nature of DNA.  
B. Confirmed the principle of base pairing C. proposed the concept of the double helix  
D. All of these are true
12. DNA polymerase A. is an enzyme B. Adds new nucleotides to a strand  
C. Derives energy from ATP for synthesis of DNA strands D. All of these are true
13. The primary function of DNA ligase is to A. Cut the two strands of DNA B. Seal new short stretches of nucleotides into one continuous strand. C. Fragment old DNA that is no longer of use to the cell.
14. Three of the four answers listed below are correctly paired. Select the exception  
A. A-C B. C-G C. A-T D. T-A
15. Four of the five answers listed below are people who helped develop the double helix explanation of DNA. Select the exception. A. Wilkins B. Griffith C. Watson D. Franklin E. Crick
16. Erwin Chargaff indicated that within a species the amount of adenine was always equal to the amount of A. Guanine B. Cytosine C. thymine
17. This nucleotide is not incorporated into the structure of the DNA helix. A. Uracil  
B. Thymine C. Cytosine D. Guanine
18. This nucleotide is a double-ringed molecule A. Guanine B. Cytosine