Bio 97: Genetics
DNA Structure

1.) What are the three components of a nucleotide?

2.) What are the differences between a nucleotide and a nucleoside?

3.) The DNA backbone has a ___________ charge. Why?

4.) What does it mean that DNA strands are antiparallel?

5.) What are the four bases commonly found in DNA?

6.) The purine bases are _______ and _______, while the pyrimidine bases are ________ and ________.

7.) Pyrimidine bases have a _______-ring structure. Purine bases have a _______-ring structure.

8.) Which base pair has two hydrogen bonds? Which has three hydrogen bonds?

9.) DNA is always polymerized in what direction?

10.) The linkage between the 5’- phosphate group of one nucleotide and the 3’-hydroxyl group of the next nucleotide is called a ____________ bond.

11.) Enzymes that break down DNA catalyze the hydrolysis of the covalent bonds that join nucleotides together. What would happen to DNA molecules treated with these enzymes?