

DNA Structure WKSH

Name: _____

Date: _____

Reading: Pages 255 - 260

1. What is a mononucleotide and what three components form a mononucleotide?
2. What type of organic compound is deoxyribose?
3. Draw one structure picture of deoxyribose, including all atoms, and number the carbons
4. Draw a any nucleotide and then label the following: sugar, nitrogen base, phosphate group, nucleoside, 3' carbon of the sugar, and the 5' carbon of the sugar
5. What is the difference in structure between pyrimidines and purines?
6. What is a nucleoside and how does it differ from a nucleotide?
7. Explain the structural differences between NMPs, NDPs and NTPs. Which NTPs is recognizable as the "energy compound?"
8. In a DNA ladder, what are held together by phosphodiester bonds.

9. Draw a small DNA ladder to show where the phosphodiester bonds are found and include the Carbon numbers that are involved.
10. What does it mean that DNA is antiparallel?
11. When forming a DNA double helix,
- a. Which nitrogen bases bond with each other?
 - b. What type of bond holds nitrogen bases together?
 - c. How many bonds hold the pairs together?
12. Critical Thinking: In a DNA “rung,” why must there be one pyrimidine and one purine? Why can’t you have 2 purines or 2 pyrimidines instead?

13. Name 3 differences between RNA and DNA.

14. What is the purpose of H1 histones?

15. How many times does DNA wrap around a nucleosome bead?

16. What was the contribution of Rosalind Franklin and Watson&Crick in the history of DNA

17. What does rRNA stand for, and what is its function?

18. What does mRNA stand for and what is its function?

19. What does tRNA stand for and what is its function