Name_____ Date_____

DNA Structure Animation Guide

http://www.dnaftb.org/dnaftb/19/concept/index.html

1. Who published the first accurate model of the DNA structure?

2. What are the three basic units of a DNA molecule?

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3. The four nitrogenous bases are…

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4. Where do the bases attach to the DNA phosphate deoxyribose backbone?

5. What allows information to be coded into DNA or make it “intelligent”?

6. What did Erwin Chargaff discover about the four bases and when?

7. What approach did Watson and Crick use to discover the structure of DNA?

8. Who created the diffractions that allowed Watson and Crick to make their discovery?

9. Watson and Crick discovered that DNA has a _____ structure.
10. Pauling proposed a _____ structure that was incorrect.
11. What type of bond is between the nitrogen bases?

12. To what base does Cytosine always bind?

13. To what base does Adenine always bind?

14. ___ number bonds form between Adenine and Thymine, and ___ number of bonds form between Guanine and Cytosine.
15. The Helices are _____ to each other meaning they run in the opposite direction.
16. "So, DNA is like a twisted ladder, where the _____ and _____ are the rails, and the _____ _____ are the rungs. The rails run in _____ orientation to each other." (http://www.dnaftb.org/dnaftb/19/concept/index.html)
17. Hypothesize the copying mechanism that is implied by the base pairings in the double helical structure discovered by Watson and Crick.