

+10

1a. Fill in the complimentary base pairs in the lower strand of the DNA fragments below.

+2

5'...GGCCATGCGT...3'  
3'...CCGGTACGCA...5'

5'...AACTACTTTA...3'  
3'...TTATGAAAT...5'

+2

b. Explain why heating these two fragments to near boiling would cause the two strands to separate into single strands. *strands are base paired together through weak H-bonds easily broken by high temperature*

+2

c. Circle the DNA that would heat denature the most quickly.

+4

d. Explain why and be as specific as possible?

*AT base pairs predominate. These are less stable than GC bp because of 2 H bonds as opposed to 3 H bonds, respectively*

*wrong number right -2*

+10

2. Match the following researchers with their discoveries. Fill in blanks with lower case letters.

2pts

- |                            |  |
|----------------------------|--|
| a. Hershey and Chase       | structure of DNA double helix <u>c</u>                   |
| b. Rosalind Franklin       | semi-conservative DNA replication <u>e</u>               |
| c. Watson and Crick        | bacterial transformation with DNA <u>d</u>               |
| d. McCleod, Avery, McCarty | phage DNA not protein transferred to bacteria <u>f a</u> |
| e. Meselson and Stahl      | X-ray diffraction of DNA <u>b</u>                        |