Study Guide: DNA Form & Function

1. Briefly explain what is so key about the three features of DNA that make it an "idea" genetic material.

2. What is the key feature that ensures a specific purine always pairs with the same pyrimidine?
    a. See http://www.dnalc.org/resources/3d/25-basepairing.html for more information

3. Apart from number of strands, what is the essential difference between an RNA molecule and a DNA molecule?

4. Can DNA polymerization proceed in the absence of a primer?

5. In what direction does DNA polymerization proceed?

6. Does DNA replication occur at just one site on a chromosome?

7. What are the roles of helicases and gyrases in DNA replication?

8. What is the significance of primases in DNA replication and why do the primers they form have to be removed?

9. On what strand would you find an Okazaki fragment and why are they significant?

10. What is the consequence of the removal of the RNA primer at a telomere?

11. What is the function of telomerase and is it active in all cells?

For an overview animation of DNA replication, have a look at: http://www.dnalc.org/resources/3d/04-mechanism-of-replication-advanced.html also available in a basic form at: http://www.dnalc.org/resources/3d/03-mechanism-of-replication-basic.html