

# DNA Replication

## Computer Activity

### Site 1

1. What is the basis of life built on? \_\_\_\_\_  
\_\_\_\_\_
2. Name each of the following structures and their functions.

Drawing	Name	Function
	DNA Ligase	
	DNA Polymerase III	
	DNA Primase	
	DNA Helicase	
	Single-Strand DNA Binding Proteins, SSB	

3. What is needed for replication to begin? \_\_\_\_\_
4. What are these sites called? \_\_\_\_\_
5. What is needed to unwind and stabilize the DNA into two single strands? \_\_\_\_\_  
\_\_\_\_\_
6. What is the open structure referred to? \_\_\_\_\_
7. What do you think anti-parallel means? \_\_\_\_\_  
\_\_\_\_\_

8. How must polymerase III synthesis DNA strands? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Which strand requires fewer steps and is quicker? \_\_\_\_\_

10. What lays down a RNA primer? \_\_\_\_\_

11. What does DNA Polymerase I do? \_\_\_\_\_

12. In which direction does the lagging strand uncoil? \_\_\_\_\_

13. How must the lagging strand be synthesized? \_\_\_\_\_

14. What are the pieces called? \_\_\_\_\_

15. What are the steps in the cycle and what make each step happen?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

16. Take the Quiz and write the correct answers below.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

#### Site 2

1. How fast does the helicase spin? \_\_\_\_\_

#### Site 3

1. What is the place called that DNA replication begins? \_\_\_\_\_

2. What is the current view of how DNA polymerase III works? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Site 4 - Build some DNA

1. How many cells does your body produce everyday? \_\_\_\_\_

2. How long does it take to replicate your DNA? \_\_\_\_\_

3. How is the copying process speed up? \_\_\_\_\_

4. How many nucleotide are added per second? \_\_\_\_\_

5. How many strands of DNA would you need to be as big as a piece of hair? \_\_\_\_\_