DNA Replication Webquest

Name:_____

Task 1: DNA Replication Video

View the DNA Replication video by the Amoeba Sisters on YouTube and answer the questions below as you watch.
Tiny URL: https://tinyurl.com/yc7teo82
Full URL: https://www.youtube.com/watch?v=Qqe4thU-os8&t=74s

1. Where does DNA replication occur in a eukaryotic cell?

2. When does DNA replication occur in a eukaryotic cell?

3. What do enzymes have the ability to do?

Fill in the table below with information from the video.

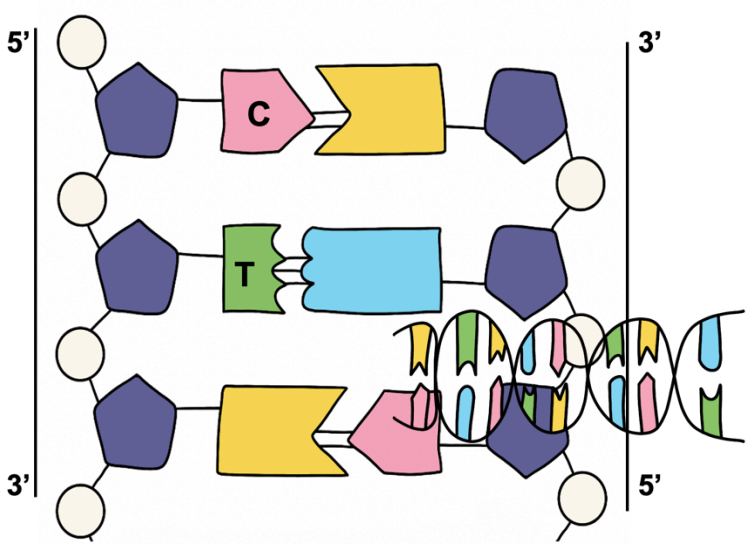
Enzyme	Enzyme Nickname	Functions
4. Helicase		
5. DNA Polymerase		

6. What is the name of the part of DNA where DNA replication starts?

7. What binds to the DNA strands to keep them separated?

8. Which base pairs with adenine?

9. Which base pairs with cytosine?



10. Label the carbon numbers and base pairs on the antiparallel DNA strands shown to the right.

11. In which direction does the DNA Polymerase build a new strand?
12. Why is the new strand named the lagging strand?

13. What are Okazaki fragments?

14. What is replication called "semi-conservative"?

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15. What could happen is DNA Polymerase matches the wrong DNA bases?

Task 2: DNA Replication Interactive



Complete the DNA Replication Interactive on the BioMan Bio website. Click *Start* and then *Interact and Learn* to begin. Answer the questions below as you move through this interactive activity.
Tiny URL: https://tinyurl.com/4y9fn8ah
Full URL: https://biomanbio.com/HTML5GamesandLabs/LifeChemgames/replicationinteractivepage.html

16. What is DNA replication?

*Note: You do not have to type your answers onto the screen when they pop up. Instead hit the space bar and the continue button.

17. Choose Helicase and watch the animation. Describe your observations and the role of helicase.

18. Choose DNA Polymerase III and watch the animation. What is the role of DNA Polymerase III?

19. Drag and drop the nucleotides to build a new complimentary strand of DNA. What nucleotides would pair with an original strand with the base sequences of T-A-G-C-C-A-T-G-C?

20. Choose DNA Polymerase I and watch the animation. What is the role of DNA Polymerase I?

Task 3: DNA Replication Summary

Answer the following questions. No Internet required.

21. What is the purpose of DNA replication?

22. Summarize the steps of DNA replication in order.

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