For completing this activity you will earn an automatic 10 points. You must participate to earn the other 5 points of this assignment. Every time I come to your group for a checkpoint, you have the opportunity to earn one point. You can earn points by answering my questions, asking a question, or walking me through part of the model.

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| **Participation** | | | | | | |
| Group Member Name | 1 point | 1 point | 1 point | 1 point | 1 point | Total |
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1. Examine the parent DNA strand you have been given.  Identify and label the following structures/features on your strand.  **CHECKPOINT**
   * + Blue = adenine
     + Green = thymine
     + Orange = guanine
     + Pink = cytosine
     + Phosphate group = red
     + Deoxyribose sugar = white
     + Hydrogen bond = clear links
     + 5’ end & 3’ end
2. Act as helicase and break 5 hydrogen bonds within the parental DNA strand.
3. Identify and label the leading and lagging strand.  **CHECKPOINT**
4. Act as primase and build an RNA primer that is two nucleotides in length for both leading and lagging strand.  **CHECKPOINT**
5. Act as DNA polymerase and add three DNA nucleotides to each primer.  Label your Okazaki fragment.  **CHECKPOINT**
6. Repeat steps 2-5 one more time. **CHECKPOINT**
7. Summarize difference between DNA replication for the leading and lagging strand on your whiteboard. **CHECKPOINT**