

8.4 Student Activity Key

DNA Replication

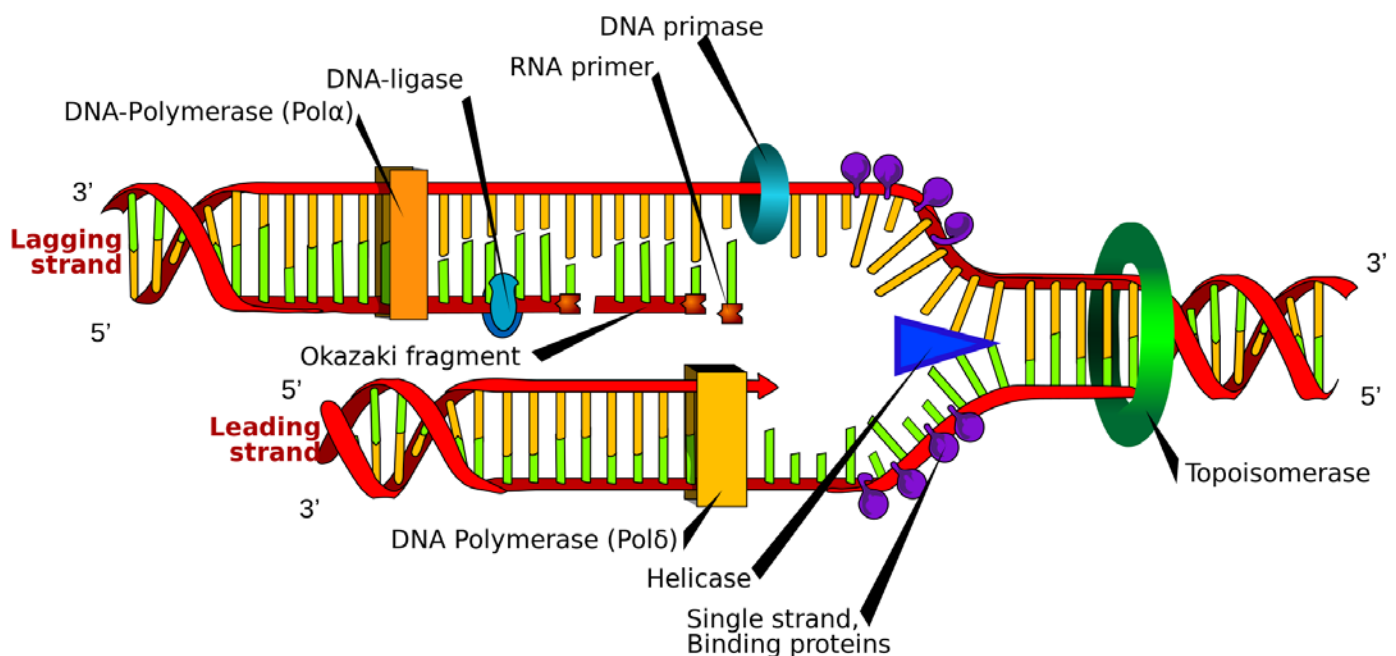


Penguin Bay Biology

- Biology Class, Simplified -

Using your notes as a reference, draw and label the following features on the image below: leading strand, lagging strand, helicase, single-strand binding proteins, topoisomerase, DNA polymerase, Okazaki fragment, primase, and DNA ligase.

Each student should draw and label each feature in a similar manner to the image below:



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Analysis

1. In your own words, what is the primary function of helicase? **Helicase breaks the hydrogen bonds between the complementary bases in a double helix.**
2. What change occurs in the double helix as a result of the helicase? **The double helix is split into two single strands.**
3. In your own words, what is the primary function of DNA polymerase? **DNA adds nucleotides to the 3' end of a DNA strand in the 5' to 3' direction.**
4. What two things are necessary for DNA polymerase to carry out its primary function? **DNA polymerase requires a template and primers, short chains of nucleotides produced by primase.**