

Name _____ Date _____

DNA REPLICATION OVERVIEW

Match the enzymes and protein to its function.

Primase

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• Unwind the double strand of DNA by breaking hydrogen bonds between the nitrogenous bases

DNA Polymerase I

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• Bind to the unwound DNA strand, and prevent them from annealing

DNA Polymerase III

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• Removes RNA primer and replaces it with DNA nucleotides

Helicase

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• Synthesis RNA primer by adding RNA nucleotides using 3' end of the parental DNA strand as a template.

Single-strand
binding proteins

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• Recognizes the 3' OH end of the RNA primer, and adds free complementary DNA nucleotides

Topoisomerase

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• Joins the Okazaki fragments by forming phosphodiester bonds to form continuous DNA strands

DNA Ligase

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• Relieves tension to the DNA molecule by nicking and cutting certain places on the phosphate backbone