JAMES, Emem Grace

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STEPS TO DNA REPLICATION

There are three main steps to DNA replication: **initiation, elongation, and termination.**

Step 1: Replication Fork Formation

 Step 2: Primer Binding

The leading strand is the simplest to replicate. Once the DNA strands have been separated, a short piece of [RNA](https://www.thoughtco.com/rna-373565) called a **primer** binds to the 3’ end of the strand. The primer always binds as the starting point for replication. Primers are generated by the enzyme **DNA primase**.

Step 3: Elongation

Step 4: Termination

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| --- | --- |
| **Enzyme** | **Function** |
| Topoisomerase | Relaxes the super-coiled DNA |
| DNA helicase | Unwinds the double helix at the replication fork |
| Primase | Provides the starting point for DNA polymerase to begin synthesis of the new strand |
| DNA polymerase | Synthesizes the new DNA strand; also proofreads and corrects some errors |
| DNA ligase | Re-joins the two DNA strands into a double helix and joins Okazaki fragments of the lagging strand |

FUNCTION OF ENZYMES IN DNA REPLICATION

REFERENCE

* Lumen learning
* Thoughtco,
* Zmedicine