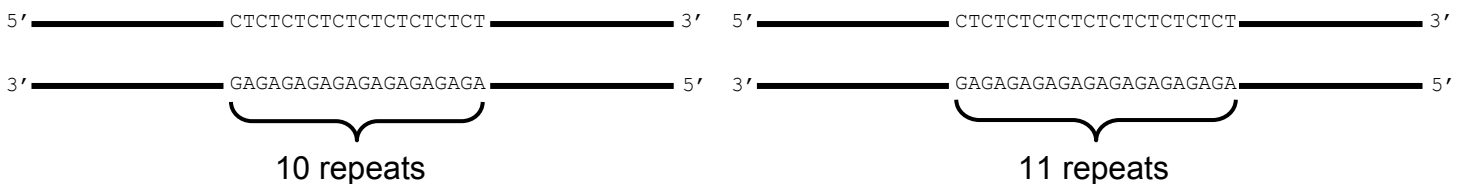


Mismatch Repair proficient (MMR⁺):
Microsatellite Stability

Mismatch Repair Deficient (MMR⁻):
Microsatellite Instability



Strand Slippage Model of Replication Errors and Microsatellite Instability

The DNA polymerase adds complementary bases to the growing strand. When microsatellite repeats are encountered, misalignment of the nascent and template strands may occur. This is known as “strand slippage” during replication. If this error is not corrected, Microsatellite Instability (MSI) is observed. If the loop of mismatched DNA occurs in the nascent strand, the result is an insertion. However, if the loop of mismatched DNA occurs in the template strand the result is a deletion.