**Polymerase Chain Reaction (PCR)**

*Denaturing (90-95 degrees)*

1. The double stranded DNA molecule is separated by heating the DNA to 90-95 degrees
2. The heat breaks the weak hydrogen bonds between the complementary bases

*Annealing (55-65 degrees)*

1. Primers attach to each single stranded DNA molecule at a specific area
2. The primers provides an attachment site for Taq polymerase and primes the strand for elongation

*Extension/Elongation (70-75 degrees)*

1. Taq Polymerase synthesises the complementary strand by adding nucleotides
2. The amount of DNA is doubled after each cycle
3. Taq Polymerase works at optimum efficiency at this temperature