

Polymerase Chain Reaction (PCR) is a technique that allows scientists to make many copies of DNA from a small sample. In this lab, students will isolate DNA from cheek cells and prepare the sample for PCR. The samples will be amplified and sent out for sequencing for use in lab 10. Good primer design is a vital part of developing a PCR protocol, so students will be asked to practice creating a primer pair in the primer design exercise.

Concepts: primer design (by hand and using Primer-3), mitochondria and maternal lineage PCR for DNA amplification; how primers work 5' to 3'.

Skills: proper use of micropipetters; chelex extraction of DNA from cheek cells; using BLAST to check primer uniqueness.