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# Lab 3 Notebook (Draft)

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UCSC BME 22L

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## Abstract

Describe in your own words (2-3 sentences) what a primer is and why it is essential to molecular biology.

## Prelab

1. How many nucleotides is the typical primer?
2. What is the acceptable melting temperature range for a PCR primer?
3. What is the acceptable GC% range for a primer?
4. Why do we avoid complementary regions between forward and reverse primers?
5. What is the typical aqueous storage buffer for primers that ensures their stability?
6. How do the inner LAMP primers form the self hybridizing loop?

7. What is the optimal range of nucleotides needed between the forward and reverse primers in a LAMP experiment?
8. What is the typical text format for genomic data?

## In-Class Lab Results

Post your in-class primer design results for the PCR (PrimerQuest/Geneious) and LAMP(PrimerExplorer) assignments. State the sequence, GC%, the Tm, and the length of each primer.

## Post Lab

Find a research paper from a reputable journal that uses either PCR or LAMP in its protocol. Write a paragraph on what they did and how they used their DNA amplification method. Give a description of the amplified region, the name of the gene, and if given write the sequence of the primers.

**Disclaimer:**

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