



## **College of the Canyons: Introduction to Biotechnology**

### **PCR Post Lab Write Up**

1. What is an alu insert? How many alu inserts do humans have? What were the two alu inserts looked at in lab?
  
2. What (if any) link do the two alu inserts have to human biology? (i.e. harmless, affect disease, gene expression, etc).
  - a.
  - b.
  
3. What purpose does the Chelex solution serve? Why is it needed when the cells are first ruptured? Why must it NOT be present in the final PCR reaction tube.
  
4. Describe the function of DNA primers in PCR reactions.
  
5. How does a primer help the research identify different or a specific gene?
  
6. What is the function of TAQ polymerase (as opposed to human polymerase) in PCR reactions?
  
7. What occurs at the three different steps of the PCR cycle? What instrument is used to perform these repeated temperature changes?
  
8. How many base pairs will be present in your sample if the ALU insert is present? How many base pairs will be present in your sample if the ALU insert is absent?
  
9. Assume a primer is 14 bases long. How often will this primer attach to a sequence of DNA? If the creature has a genome of 6.4 billion base pairs, how many fragments would you expect to see amplified? Show the math...