**Pre-lab Questions for Biotech Lab I**

1. What are restriction enzymes?

2. How do the three restriction enzymes you will be using differ from one another?

3. Why do the tubes containing the DNA and restriction enzymes need to incubate at 37
 degrees C?

4. What will happen to the DNA after being incubated with restriction enzymes?

5. If a sample of DNA contains 6 EcoR1 restriction sites, how many fragments will be produced when that sample is then digested with EcoR1?

6. What is a DNA palindrome?

  **Pre-lab Questions for Biotech Lab II**

1. What is the purpose of adding loading dye to your digested DNA samples before adding them to the gel?

2. What is the purpose of the “marker” loaded into lane 1?

3. Why do the samples need to be near the (-) electrode and not the (+) electrode?

4. Why do the DNA fragments separate?

5. Do larger or smaller fragments migrate farther in a gel? Why?

6. How can you *estimate* the length of a fragment from an unknown digested sample?

7. How can you *measure* the length of a fragment from an unknown digested sample?

8. Explain why a sample that was digested into 7 fragments might only show 4 on a gel.