

# DNA Fingerprinting Lab

## Answer Sheet

### Lesson 1:

- 1.
- 2.
- 3.
- 4.
- 5.

### Lesson 2: Restriction Digest of DNA Samples

- 1.
- 2.
- 3.
4. a.
- b.

Left

Right

5.     Sample #1

Sample #2

# of fragments \_\_\_\_\_

# of fragments \_\_\_\_\_

Fragment Size(largest to smallest):

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Observations:**

- 1.
- 2.
- 3.

**Lesson 2: Review Questions**

- 1.
- 2.
- 3.
- 4.

**Lesson 3: Review Questions**

- 1.
- 2.
- 3.
- 4.

**Lesson 4: Questions**

- 1.
- 2.
- 3.
- 4.

5.

6.

7.

8.

9.

### **Quantitative Analysis**

2.

3.

5.

**\*See Attached Data Table and Graphs**

## Lesson 4 Analyzing the DNA Patterns

### Interpretation of Results

Attach a photo, Xerox, or your actual dried gel in this space. Indicate which sample is in each well.

1. What are we trying to determine? Re-state the central question.
2. Which of your DNA samples were fragmented? What would your gel look like if the DNA were not fragmented?
3. What caused the DNA to become fragmented?
4. What determines where a restriction endonuclease will "cut" a DNA molecule?
5. A restriction endonuclease "cuts" two DNA molecules at the same location. What can you assume is identical about the molecules at **that location**?
6. Do any of your suspect samples appear to have *Bam*HI or *Hind*III recognition sites at the same location as the DNA from the crime scene?
7. Based on the above analysis, do any of the suspect samples of DNA seem to be from the same individual as the DNA from the crime scene? Describe the scientific evidence that supports your conclusion.

Band	Lambda/HindIII size marker		Crime Scene		Suspect 1		Suspect 2		Suspect 3		Suspect 4	
	Distance (mm)	Actual size (bp)	Distance (mm)	Approx. size(bp)	Distance (mm)	Approx. size(bp)	Distance (mm)	Approx. size(bp)	Distance (mm)	Approx. size(bp)	Distance (mm)	Approx. size(bp)
1		23,130										
2		9,416										
3		6,557										
4		4,361										
5		2,322										
6		2,027										

# Graph Paper

