

DNA Forensic Worksheet

Questions

- 1. Explain the function of each of following components of gel electrophoresis:
 - a. Agarose gel

b. Electrophoresis buffer

c.Wells in the gel

d. Electric current

2. List one important safety precaution that must be followed when performing any type of gel electrophoresis.

Post-Lab Analysis and Conclusions

- 1. Evaluate the resulting banding patterns of the simulated crime scene DNA and the possible suspects. Give your opinion as to the identity of the guilty individual. Justify your opinion.
- 2. List three errors that could affect the outcome of any gel electrophoresis procedure.
- 3. Briefly summarize how gel electrophoresis is used to separate molecules.
- 4. Why would a forensic scientist use the polymerase chain reaction technique to prepare DNA samples for analysis?

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DNA Banding Worksheet



Analysis

- 1. Using a metric ruler, measure the migration distance in millimeters for each band and sketch the observed DNA banding pattern on the DNA Banding Worksheet.
- 2. Complete Data Table 1.

Data Table 1

DNA Sample 1		DNA Sample 2		DNA Sample 3		DNA Sample 4	
DNA Fragment No.	Migration Distance (mm)	DNA Fragment No.	Migration Distance (mm)	DNA Fragment No.	Migration Distance (mm)	DNA Fragment No.	Migration Distance (mm)