Go to "classzone.com". Click on High School<California<Go. Then chose the McDougal Littell book with the hatching alligator on it. Under "Labs" chose Virtual Labs, then pick <u>Gel Electrophoresis</u>.)

Follow the steps and answer the questions below.

- 1. What evidence was found at the crime scene?
- Explore the science lab and list the function of the following items:
 a. Ultraviolet Light Box:
 - b. TBE Buffer:
 - c. Ethidium Bromide:
 - d. Micropipette:
 - e. Digested DNA Samples:
 - f. DNA Markers:
 - g. Bromophenol Blue
- 3. Click on "Background". Explain what a DNA Fingerprint is.
- 4. Click "Procedure". Answer this question from your notebook: How can comparing DNA fingerprints be used to identify who committed a crime? (*Hint: you may need to fake an answer in the notebook to continue*)

Continue with the procedure steps.

After Step 11, use the info you collected and complete the chart. Record the estimated length in base pairs (bp) of DNA fragments found in each sample. Estimate the # by comparing it to the marker DNA. (*Hint: fill in the chart online to advance*)

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Band	Marker DNA	Victim DNA	Suspect 1 DNA	Suspect 2 DNA	Evidence DNA
	(bp)	(bp)	(bp)	(bp)	(bp)
1					
2					
3					
4					
5					
6					

6 Answer the notebook Questions:

6. Evaluate: Does the DNA found on the hair match suspect 1 or suspect 2?

- 7. Analyze: Why do a series of bands appear on the gel?
- 8. Identify Cause: Why is the largest DNA fragment band found closest to the well in which it was placed?
- 9. Infer: What is true of the DNA fragment band closest to the positive end of the gel?
- 10. Predict: What would happen if the electrodes were plugged into the wrong outlets?
- 11. Apply: Why is DNA fingerprinting more conclusive when proving a person's innocence rather than their guilt?

12. If time permits, with your lab group, complete the Bacterial Transformation Virtual Lab. Or complete as HW tonight. <u>Summarize the lab</u> and your conclusions. (Which Petri dish had the most growth?)