Go to:  http://learn.genetics.utah.edu/content/labs/gel/

First click on “Can DNA Demand a Verdict?” and read the background information.

1. How much of your DNA is unique?
2. How much DNA do you have?
3. How many base pairs of your DNA are unique?
4. How is forensic DNA evidence analyzed?
5. How might DNA become contaminated?
6. What is DNA evidence used for most often?
7. How can we be sure that DNA evidence is useful in court?

Return to the main page and start the Gel Electrophoresis simulation. Follow the online simulation and answer the questions below when you have finished the activity. You may want to run through the simulation first, and then go through a second time to answer the questions.

1. What does electrophoresis do?
2. Why would a forensic scientist use it?
3. Summarize the process of electrophoresis.
4. Why does DNA travel through the gel during electrophoresis?

5. Why do we use a DNA size standard when running our gel?

6. What do you have to do to the gel before examining your DNA?

7. Record your DNA sample size estimates below:

8. Describe the purpose of:
   a. Agarose Gel
   b. Electrical Current
   c. Stain
   d. Buffer in Agarose Gel
   e. Comb
   f. Loading buffer
   g. DNA size standard
   h. Ethidium Bromide

9. If your demo had allowed you to run two different DNA samples at once, what do you think you would have seen? You can answer by sketching a gel below.

Back on the “Can DNA Demand a Verdict” page, there is a link to DNA Forensics, from the Human Genome Project. http://www.ornl.gov/sci/techresources/Human_Genome/elsi/forensics.shtml

Read the sections entitled: “DNA Forensic Databases,” “Ethical, Legal, and Social Concerns about DNA Databanking,” and “Potential Advantages and Disadvantages of Banking Arrestee DNA.” Share your opinion with me – do you think there should be nationwide or worldwide DNA banks? Why or why not? Give me some well-thought-out reasons for or against this practice. (your answer should be about 1 page – please attach)