Pre-Activity Worksheet: Who’s The Father?

General Description
In the activity you will do this week during your learning/discussion group, you will be examining DNA in order to solve a paternity dispute. In order to be prepared for this activity, complete this worksheet.

Reading
Browse the “DNA Technology and Genomics” chapter in your text. Pay particular attention to figures 20.7, 20.8, and 20.9. Read the sections on “DNA Analysis and Genomics” and “Practical Applications of DNA Technology” beginning on pgs. 383 and 393.

Definitions
Write a definition of the following words. Use your text, textbook glossary, and your previous knowledge to create the best definition possible. Remember to connect your definitions to DNA analysis.

1) PCR

2) electrophoresis

3) restriction fragments

4) gene

5) genome

Questions
Answer the following questions. You will explore your answers to these questions in-depth during learning/discussion group.

1) On average, how different are the DNA sequences of two people? Why aren’t there more differences between sequences?

2) Several death row inmates have been released on the strength of DNA evidence. What can and can’t DNA evidence tell us about the perpetrators of a crime? What assumptions are built into our use of DNA evidence?

3) Is DNA analysis ethical? Are there unethical uses of this technology? Describe your reasoning.