**The Sad But True Case of Earl Washington**

1. Was Earl Washington guilty of raping and murdering Rebecca Williams?

2. Did the criminal justice system work as it should have?

3. Which of the following materials are not needed to perform a PCR reaction?

**PCR Notes**

What does PCR stand for?

What does it do?

What natural process does it mimic?

Draw the process of PCR:

4. You set up a PCR reaction using a human DNA polymerase enzyme and the other required materials. What results will you observe after running the PCR for 30 cycles?

**Gel Electrophoresis Notes**

Draw the process of Gel Electrophoresis:

Gel Electrophoresis separate molecules by:

5. What is the approximate size of the DNA molecule marked by the arrow?

6. If DNA was loaded at the top of a gel but the positive and negative poles were accidentally reversed, what would happen?

**STR Notes**

What is STR?

What is STR Analysis?

7. A single STR may differ between two unrelated people by…

8. Does suspect A have more or less repeats at TH01 than the crime scene DNA?

9. Which suspect likely committed the crime?

10. Is the STR analysis from the last slide enough to convict suspect B with 100% certainty?