Name: _____ DNA Virtual Labs

GO to http://learn.genetics.utah.edu/content/labs/

PART 1: DNA extraction

1. Why would you need to extract DNA from a person?
   a. B. c.
2. Provide three examples of places where you collect cells with DNA (the simulation provides one):
   a. B. C.
3. What is a buccal swab?

4. What does lysis solution and warm water bath do?

5. What is the purpose of the salt solution?

6. What does a centrifuge do?

7. What does soluble mean?

8. Why do you need to centrifuge the tube a second time?

PART 2: PCR Reaction

9. How many base pairs make up the human genome?

10. What materials are required for PCR?

11. In order to complete PCR you need a _____ size sample.

12. What is a primer?

13. Why are nucleotides added to the mixture?

14. At 203 degrees farenheit the DNA _____.

15. At 122 degrees the DNA primers _____.

16. At 72 degrees DNA polymerase _____.

17. What happens during cycle three?

18. After 30 cycles _____.

PART 3: Gel Electrophoresis

19. What is gel electrophoresis?

20. What is the function of the “gel”?

21. _____ makes DNA move.

22. Which DNA strands will move faster and farther through the gel?

23. How do you make the DNA visible?

24. Briefly describe how to make the gel:

25. What is the DNA size standard?

26. In order to see the DNA strands you must do two things:
    A. B.
27. What size bands did you have in your DNA sample?
    A. B. C.

28. What could be a possible source of error in performing a gel electrophoresis?

Part 4: Reading a Gel Electrophoresis