**PCR TEST REVIEW—TEST IS TOMORROW!!!!**

1. Study the “Genes We Share” reading guide.
2. Be able to identify a point mutation, frameshift insertion, and frameshift deletion mutation.
3. What type of mutation would affect protein sequence the most?frameshift
4. Define mutation. A change in the DNA sequence
5. Study the PCR prelab questions.
6. What is the name of the machine used in PCR? thermalcycler
7. What does PCR stand for?polymerase chain reaction
8. What genetic process is carried out during PCR? replication
9. What are some sources of genomic DNA that may be analyzed from a crime scene? blood, hair, epithelial cheek cells, semen
10. In what should DNA samples/enzymes be kept during a PCR lab at all times? ice
11. Define amplification. The ability to target and make millions of copies of a gene
12. How many samples did your lab group prepare for PCR? 5
13. What color was the primer used? blue
14. What color was the loading dye? orange
15. Why are primers important during amplification? Target a DNA sequence, provide an exact start signal for DNA Polymerase, serve as a stop point for amplification
16. What is the special heat tolerant enzyme used during PCR? Taq Polymerase
17. How did it get its name?*Thermus aquaticus*
18. List the specific contents of the Master Mix. A,T,C,G(nucleotides), special buffer, MgCl2
19. For the following steps of PCR, define, list the order, and provide temperature ranges:

Denaturationfirst—melts the two strands of DNA 95 degrees C

Annealing second—oligonucleotides prime their complimentary base pairs 52 degrees C

Extension third—add nucleotides one at a time 72 degrees C

1. From the notes yesterday and the actual lab, be able to label the contents of the wells that were loaded.
2. Be able to analyze a gel from the crime scene PCR lab(I recommend the one on the handout I gave you yesterday)