**Gel Electrophoresis**

Observation Questions:

1. How do you sort microscopic DNA strands in a tube even though you cannot see or touch them?
2. What does the gel act as in Gel Electrophoresis?
3. How do we push DNA strands through the gel filter?
4. In which direction do the DNA strands migrate, toward which charge and away from which charge?
5. Which size strand lengths move fastest through the gel and why?
6. What do we do to help us to see the DNA migration in the gel?
7. What are the five basic tools required to create and run a gel electrophoresis experiment?
8. What is Agarose made from and describe its characteristics?
9. What is added to the Agarose powder to begin the process of making the gel?
10. How do we get the Agarose to melt in with the buffer?
11. Why do we tape the ends of the mold?
12. What is the comb used for?
13. Why is the gel placed into the refrigerator?
14. What initially goes into the electrophoresis box?
15. List the six items needed to set up the electrophoresis experiment to run?
16. Why do we load buffer into the DNA samples before depositing them into the Gel reservoirs?
17. Why do we use the DNA size standard?
18. Which color lead generates the positive charge from the power supply?
19. Why is DNA attracted to the positive charged area?
20. What serves as proof that the current is indeed running in the electrophoresis box?
21. What is the dye used to make the DNA visible in the gel?
22. What do the words Mutagenic and Carcinogenic mean?

Mutagenic:

Carcinogenic:

1. Which term applied to Ethidium Bromide?
2. About how long does it take to stain the gel?
3. What type of light table do you view your stained gel on?
4. What do you need to wear to view your gel on this light table?
5. What were the size fragments you observed and reported on this lab activity?
   * + bp
     + bp
     + bp
6. What does bp mean?
7. Do you believe you could run you own real life experiment after viewing this virtual lab? Why or why not? Be detailed: