



Name: _____ Block: A B C D

ELECTROPHORESIS VIRTUAL LAB

- ✓ Gel Electrophoresis is, “a technique which uses a thin block of jelly-like material (gel) to act as a sieve to separate molecules. Fragments of DNA or proteins are separated based on their size by applying an electrical field across the gel. The smaller molecules move more quickly than the larger molecules.” Using this technique, different DNA and proteins are separated by size and easily compared to one another. In this lab you will virtually go through the techniques and perform an experiment.

Pre Lab Questions:

1. What is used to cut the DNA into fragments? _____
2. Where and how does it know where to cut? _____
3. Why is electrical current used to move the fragments? _____

Go to: <http://bit.ly/gelectrophoresis>

Virtual Lab:

First go through the tutorial and answer the following questions:

1. You could sort DNA by length if DNA was the size of _____.
2. Since DNA is so small it can't be seen by most microscopes, we measure it using _____.
3. The gel is a filter that is like a _____ made of _____ with many _____.
4. The DNA moves in the gel by adding an _____.
5. _____ strands move more quickly than _____ strands. Over time short strands will move _____ the starting point than longer strands.
6. Staining the DNA makes it visible to _____. It is best to see the lines under UV light.

- ✓ You are now ready to create your gel and run your lab. Follow the instructions carefully. Remember that the DNA standard is a sample of DNA that we know the lengths of. It is used to compare unknown samples of DNA so we know the length of the strands.

Write the approximate size of the three bands starting with the one closest to the starting point (include units):

1. _____
2. _____
3. _____

