NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AP BIO LAB DAY PRE-LAB QUESTIONS

Use the LabBench site to preview MOLECULAR BIOLOGY – Lab bench # 6, TAKE NOTES IN YOUR BILL, and answer the following questions.

BACTERIAL TRANSFORMATION (New lab 8)  
1. *E. coli* bacterial cells with plasmids containing the ampR gene have the ability to do what?

2. What does the word “competent” mean?

3. Name the two procedures you will use in this experiment to make cells “competent”.

1.

2.

4. You will NOT be working with an open flame for this lab, but you should be aware of the other  
 safety guidelines shown on the sterile technique page. List these below.

1.

2.  
  
 3.

4.

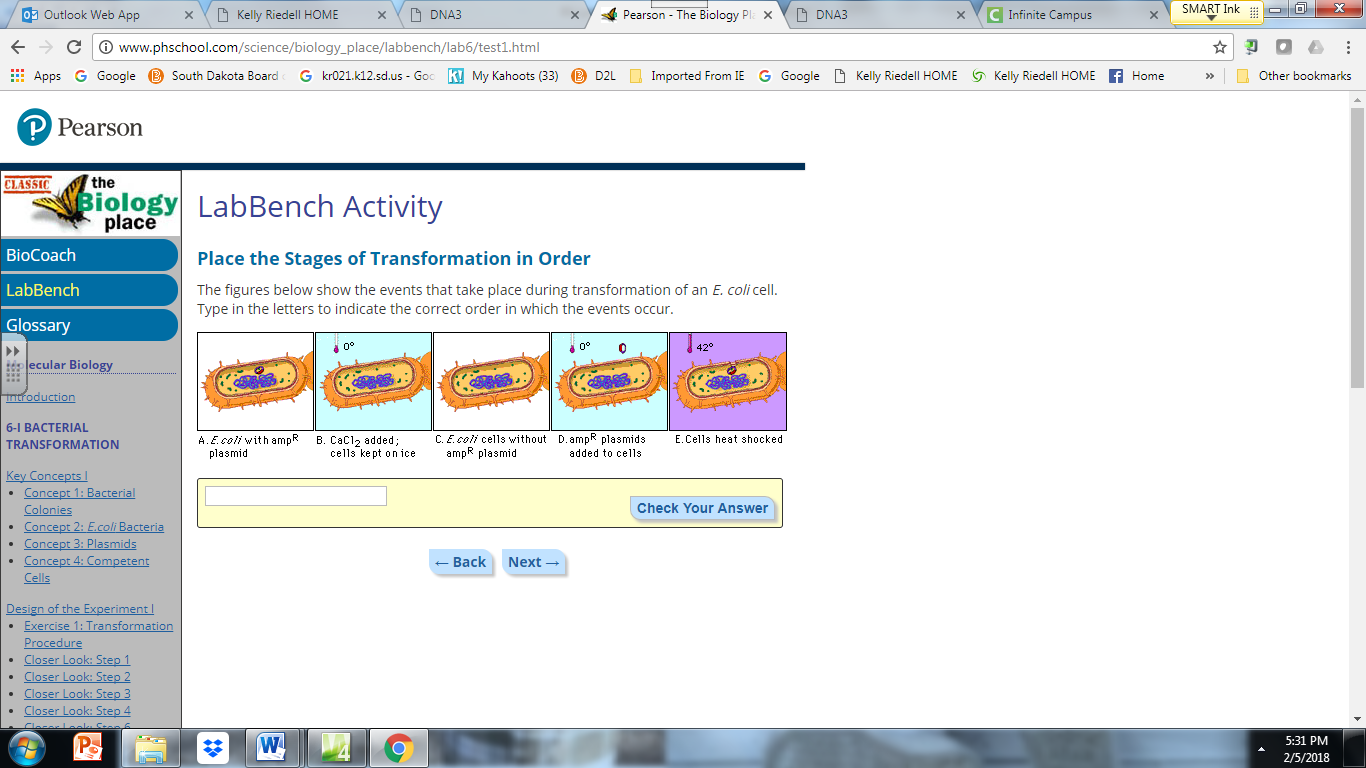
5.

6.

7.

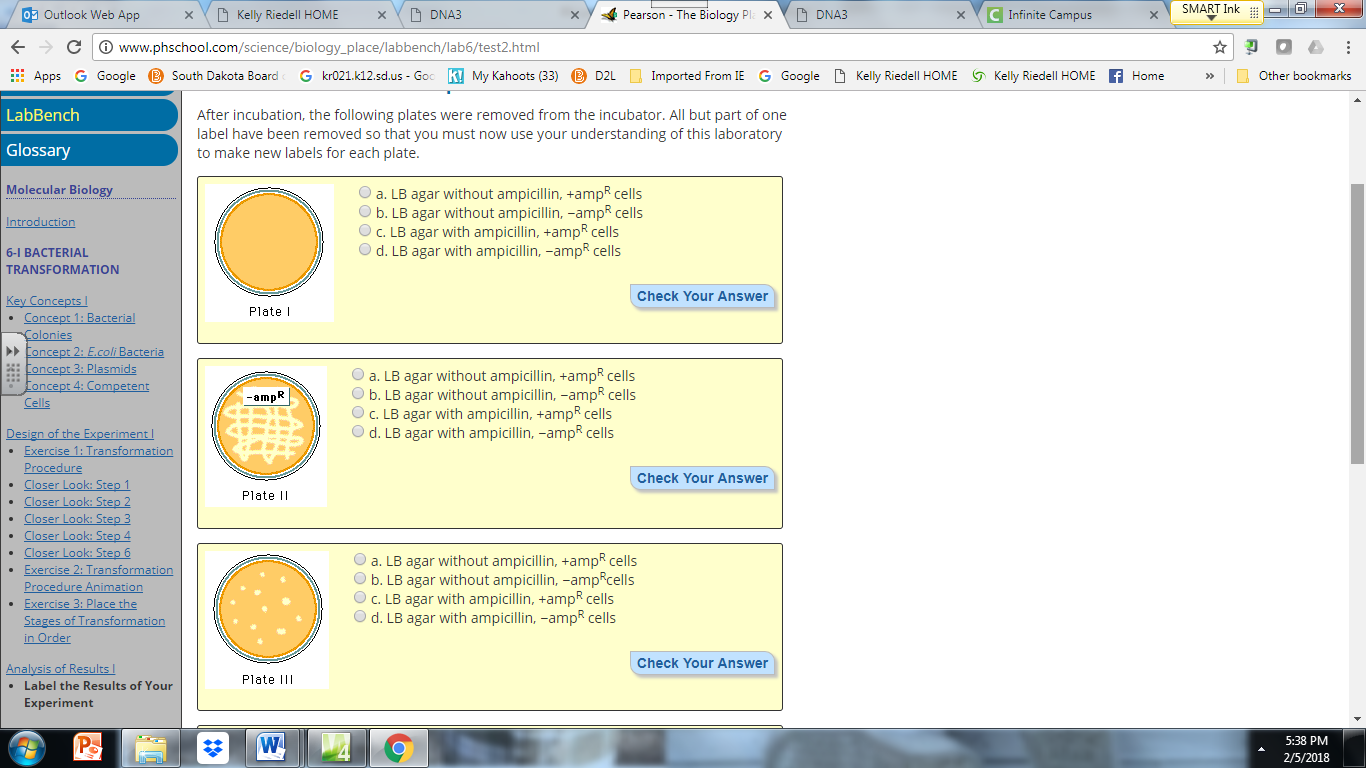
8.

5. Transformation is a kind of HORIZONTAL GENE TRANSFER. You watched a video and took a Google Docs quiz about this. In this lab you will be trying to transform *E. coli* cells. Describe what happens in  
transformation?

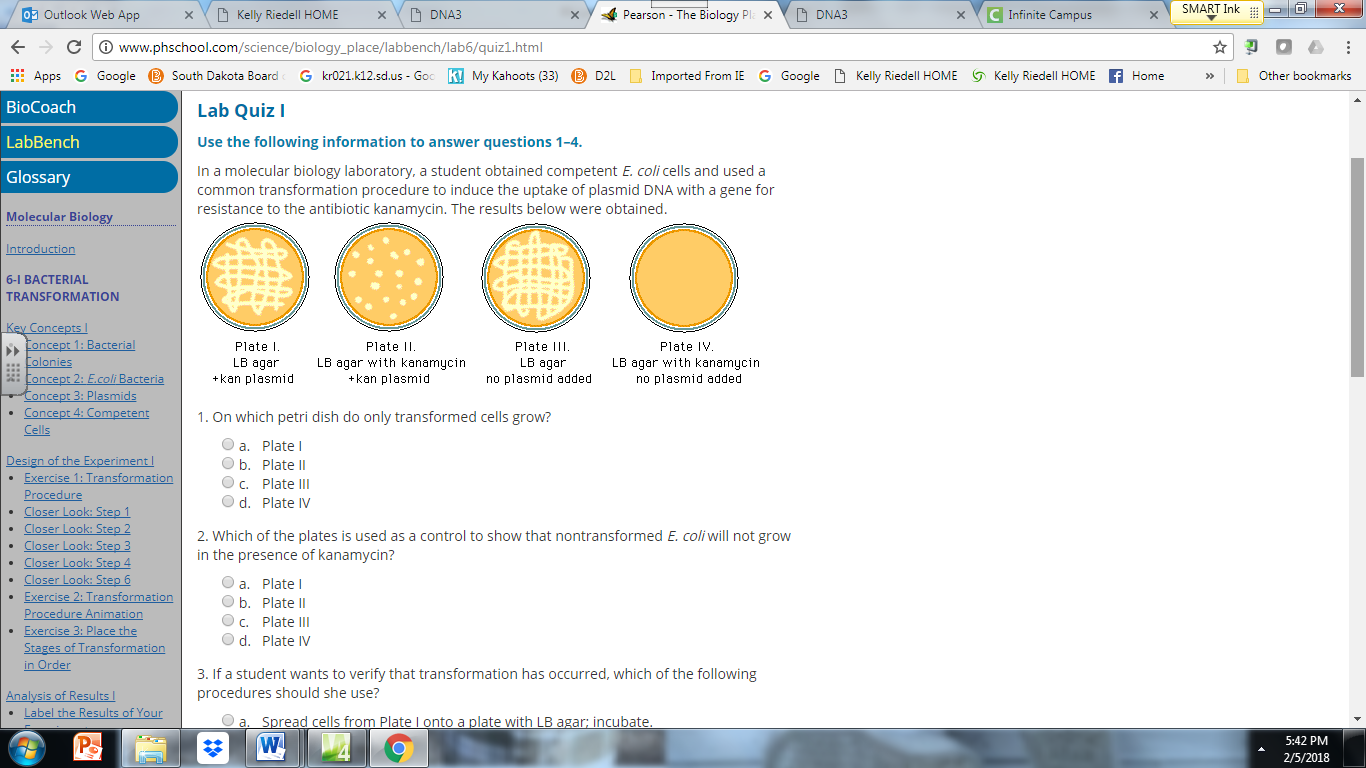


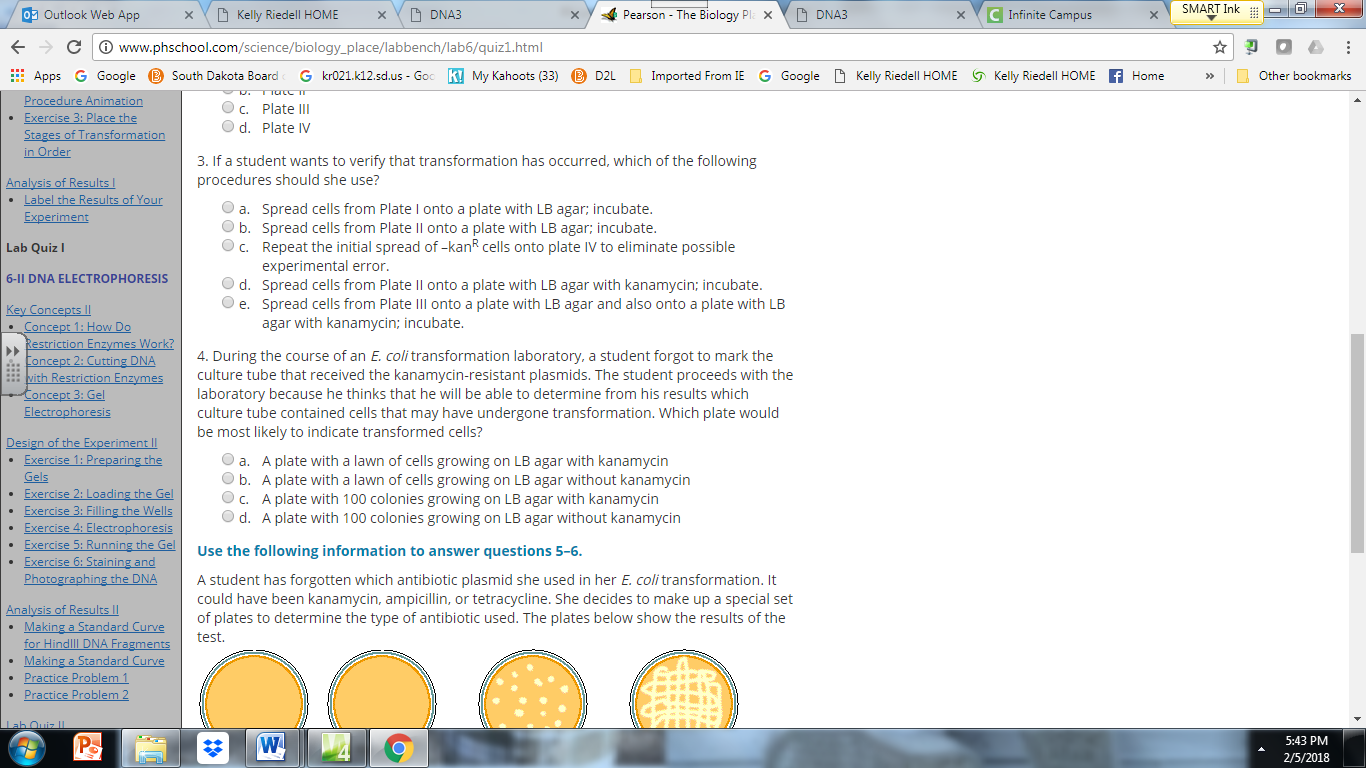
6.

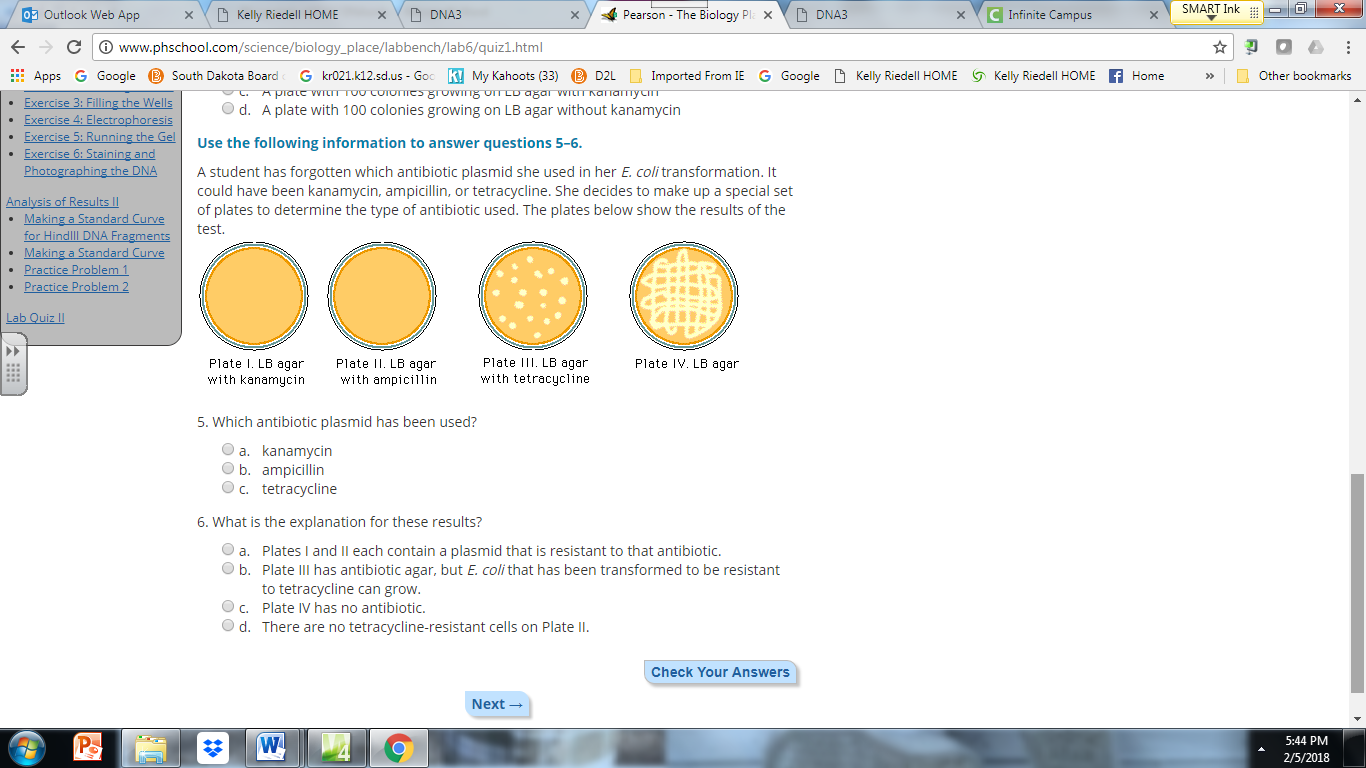
7. Only cells that have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will be able to grow on media containing AMPICILLIN.







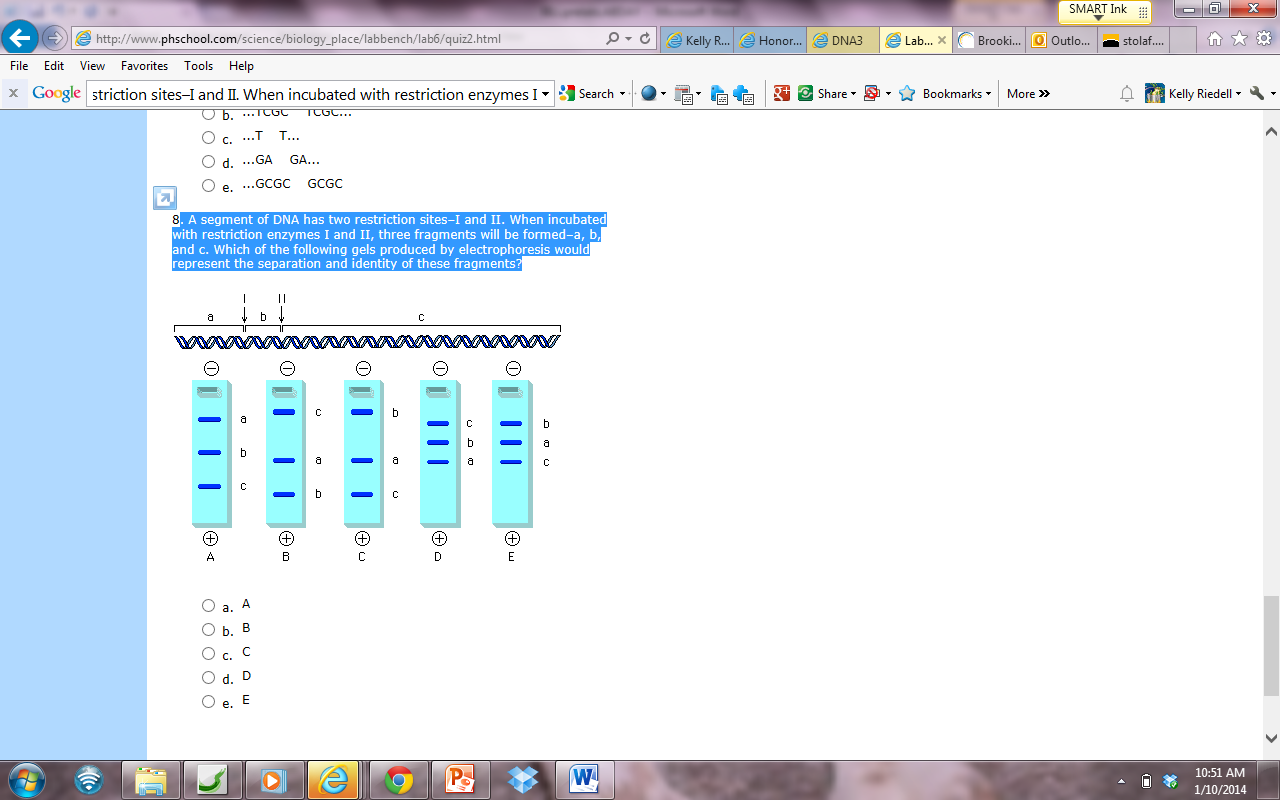




RFLP ANALYSIS (DNA FINGERPRINTING (New Lab 9)

1.. What causes the DNA fragments to move down the gel when an electric current is applied?

2. Explain the relationship between fragment size and distance moved in RFLP analysis.



3. A segment of DNA has two restriction sites–I and II. When incubated with restriction enzymes I and II, three fragments will be formed–a, b, and c.

Which of the following gels produced by electrophoresis would represent the separation and identity of these fragments?

4. TRUE or FALSE: The tracking dye is used to stain the DNA to make it visible.

5. When should you turn off the power to your gel?

6. In this virtual lab scenario, how is marker DNA (also called a LADDER) is used to INTERPOLATE  
 the size of fragments in the unknown DNA?