Name _____ Date _____ Period _____

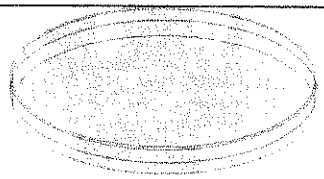
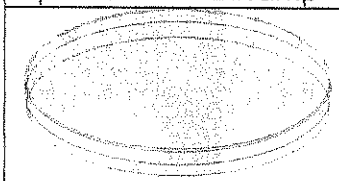
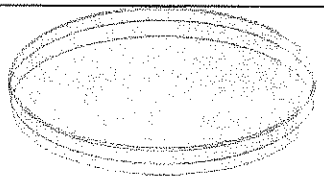
AP Lab: pGLO Bacterial Transformation
Results and Data Collection

A. Data Collection

Observe the results you obtained from the transformation lab under normal room lighting. Then turn out the lights and hold the UV lamp over the plates.

1. Carefully observe and draw what you see on each of the four plates. Put your drawings in the data table in the column on the right of Data Table 1. Record your data to allow you to compare observations of the "+ pGLO" cells with your observations for the non-transformed E. coli. Write down the following observations for each plate.
    a. How much bacterial growth do you see on each plate in relation to the amount on the other plates?
    b. What color are the bacteria?
    c. How many bacterial colonies are on each plate (count the spots you see)? If there are what appears to be "hundreds" you may describe this as "Too Many To Count".

Data Table 1

		Observations	
TRANSFORMATION PLATES	 +pGLO LB/amp	Normal Light:	UV light:
	 +pGLO LB/amp/ara	Normal Light:	UV light:
		Observations	
CONTROL PLATES	 -pGLO LB/amp	Normal Light:	UV light:
	 -pGLO LB	Normal Light:	UV light:

Answer the following analysis questions in your lab journal.

1. Why are bacteria the best organisms to use for DNA transformation?
2. What does amp indicate? What does ara indicate? What were their functions in this experiment?
3. Describe how the E. coli colonies appeared originally.
4. Which of the traits that you originally observed for E. coli did not seem to become altered?
5. Of the E. coli traits you originally noted, which seem now to be significantly different after performing the transformation procedure?
6. On which plate did you not find any bacterial growth? Why?
7. When UB light was shined on the pGLO plasmid solution, the plasmid itself did not fluoresce. Knowing this, what possible conclusion could you draw about why transformed bacteria grown in the presence of arabinose DOES fluoresce?
8. What two things are necessary for you to see the fluorescence? (hint: one thing was in the agar and one thing was not in/on the plates)