R-07

exercise 5

LABORATORY REPORT

Gram Staining

Name _____

Date _____

Lab Section _____

Purpose

_____

_____

Data – Use colored pencils

	Staphylococcus epidermidis	*Bacillus subtilis*	*Escherichia coli*
Sketch a few bacteria (1000×).			
Morphology and arrangement: (2 words)			
Color:			
Gram reaction:			

Which organism is the largest? _____ The smallest? _____

Questions

Answer either way. Even if "OK" list several means of error

1. Did your results agree with the information in your textbook? _____ If not, why not?

_____

_____

2. Why will old gram-positive cells stain gram-negative? _____

_____

_____

3. Can iodine be added before the primary stain in a Gram stain? _____

_____

_____

4. List the steps of the Gram staining procedure in order (omit washings), and fill in the color of gram-positive cells and gram-negative cells after each step. List the color that would be observed microscopically afterwards - red, purple, clear, etc.

Step	Chemical	Appearance	
		Gram-Positive Cells	Gram-Negative Cells
1			
2			
3			
4			

5. Which step can be omitted without affecting determination of the Gram reaction? _____

because after the previous step, GN & GP are already differentiated.

Critical Thinking

No contaminants.
Only 1 type of bacteria is present.

1. Suppose you Gram stained a sample from a pure culture of bacteria and observed a field of red and purple cocci. Adjacent cells were not always the same color. What do you conclude?

2. Suppose you are viewing a Gram stained field of red rods and purple cocci through the microscope. What do you conclude?

3. Since you can't identify bacteria from a Gram stain, why might a physician perform a Gram stain on a sample before prescribing an antibiotic?

4. If you Gram stained human cells, what would happen?

Procedure questions: (Skip the question in Step #4)