Name _____ Section _____

Preparation and Properties of Soap

Experiment #7 Pre-Lab Exercise

1. What is the chemical nature of fats and oils, *i.e.*, what class of chemical compounds make up the bulk of fats and oils? Are they alcohols, aldehydes, ketones, acids, esters, or amines?

2. Describe the chemical reaction that takes place in the process of saponification. What are the reactants? What are the products? Show a representative chemical reaction for saponification.

3. How do soaps differ from detergents? (See text book or check the internet)

4. Briefly describe how soap and detergent work to clean your body or to clean other surfaces, such as dishes. Why are these agents (soap or detergent) needed in order to have thorough cleaning?

Name _____ Section _____

Preparation and Properties of Soap

Experiment #7 Data & Report Sheet

A-1. Describe the look and feel of the soap you have made, compared to the fat you started with.

A-2. How does your soap compare with the look and feel of commercial soap?

Table B1. Comparison of Properties of Soap vs Detergent

	Alkalinity test with pH indicator paper		Lathering and solubility	
	Color of test paper	Is it alkaline, neutral or acid	no Ca^{2+}	with Ca^{2+}
Soap				
Detergent				

B-1. What conclusion would you make with regard to the harshness of soap vs detergent on skin from the alkalinity test?

B-2. Compare the lathering power and solubility of soap vs detergent in hard water (calcium solution).

B-3. Would you expect soap or detergent to be a more effective cleanser (dissolving oils) in hard water (water with high level of calcium or magnesium ions)? Explain.

B-4. Describe the oil spot on the filter paper after cleansing with soap vs detergent in water. Is there a noticeable difference? Which is the more effective cleanser in deionized water?

B-5. Describe any differences in the cleaning power of soap vs detergent in calcium solution.