General Chemistry 1 Soap Lab Week 1 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Task 1: Create your Soap “Recipe”**

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| Before starting this experiment, you’ll need to do a bit of research on making soap. What are common fats and oils used for the ingredients to make soap? Why? Write down the reference that you used. |

Consider some properties you want your final soap product to have. Extra moisturizing? Extra cleansing? Calming or energizing scent or color? Low-Cost? Your final goal is to “sell” your soap, so you’ll need a convincing sales pitch.

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| What properties do you want your final soap to have? Be specific. |  |
| What fat(s) and/or oil(s) will you use? In what ratio? |  |
| What fragrance will you use, if any? |  |
| What color dye will you use, if any? |  |

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| The fats and oils you use to make your soap contain a type of molecule called fatty acids. What is the difference between saturated and unsaturated fatty acids? Draw an example molecule of each. Write down your reference(s). |

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| Record your observations |
| What steps did you take to ensure no sodium hydroxide remained? |

**Task 2: Make your soap.**

Calculate the cost of your finished soap by adding the costs of the raw materials

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| Fats / Oils | $ |
| Fragrance | $ |
| Dye | $ |
| **Total Cost** | $ |

**Task 3: Design a Method to Measure Lather**

In next week’s experiment, you will determine how well your soap lathers, or the ability to form suds. It is your job before you leave today to come up with an experimental method to ***quantitatively*** test the lather of your soap.

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| What is the difference between a qualitative and quantitative measurement or observation? |

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| Come up with a detailed method to quantitatively test the lather of your soap. You’ll use this same test to compare your soap with a commercially made bar of soap. |

Have your lab instructor check your method for feasibility and safety.

**Task 4: Reflect** on today’s experiment

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| The American Library Association states that for a person to be information literate, they must “be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” Describe how you used this skill today and why information literacy is important in science. |