**Exercise 26**  LABORATORY REPORT

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_

***Lipids in Foods***

Purpose: ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Prelab Questions**

**According to the background information of the lab procedure,**

1. List 3 or more biological uses of lipids.
2. List 3 or more ways we intentionally use lipids in foods.
3. Name 2 essential fatty acids.
4. Explain why they are considered “essential”.
5. Explain what an emulsifier is and why they are important.

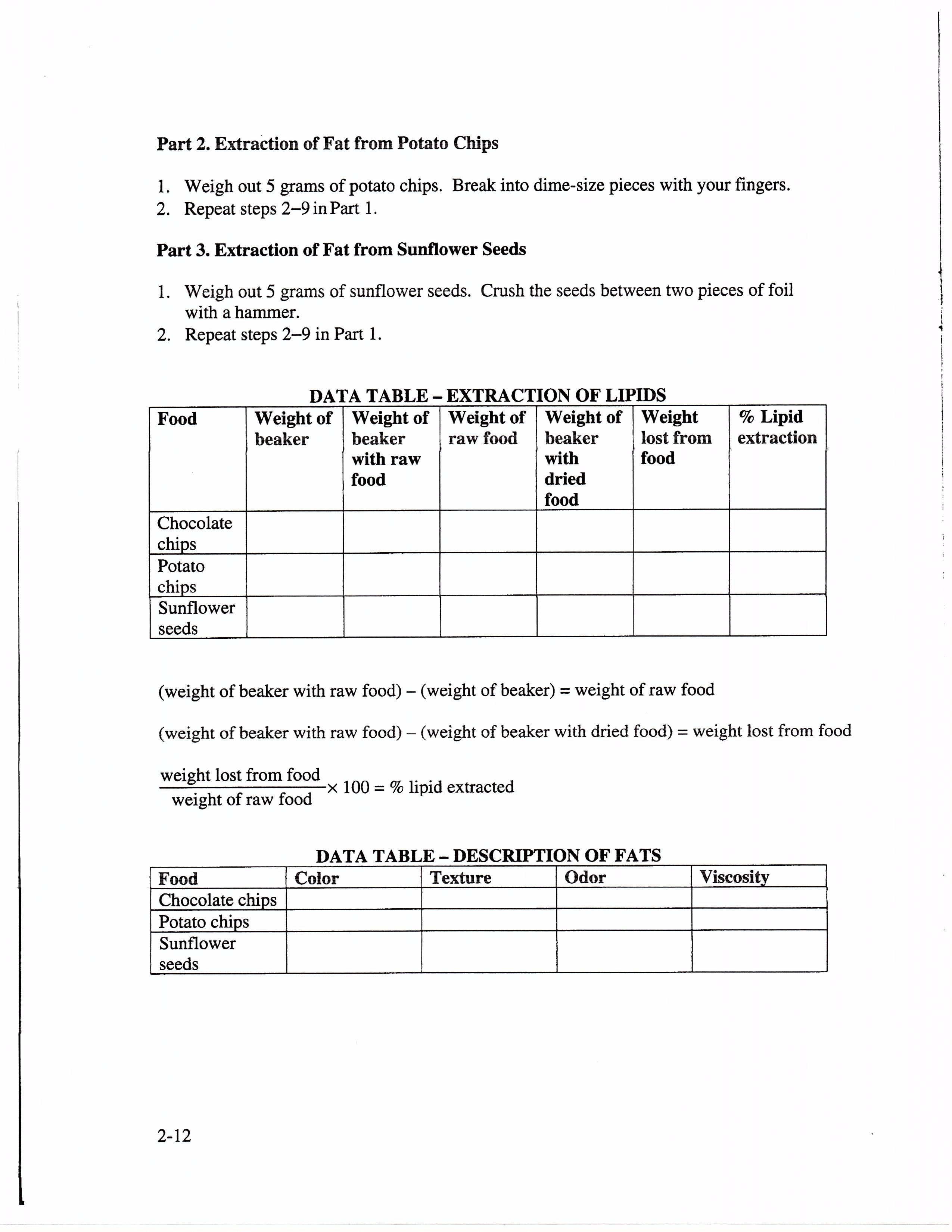
1. .Lecithin:
   1. What classification of a lipid is it?
   2. What are the food sources of lecithin?
   3. How is Lecithin used in the food industry?
   4. In which of the 3 foods that will be tested is lecithin used as an emulsifier, chocolate, potato chips or sunflower seeds?

**Data, Observations, Analysis**:

**Part A QUALITTIVE Visual evidence of Invisible Fats from Foods**

|  |  |
| --- | --- |
| **Food** | **Describe qualitatively what you see on the paper** |
| **Chocolate Chips** |  |
| **Potato Chips** |  |
| **Sunflower Seeds** |  |

**Part B QUANTITATIVE Measurement of Invisible Fats from Foods**



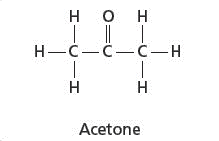
**EMPTY** beaker

**2nd Day**

**(Subtract)**

**Analysis Questions:**

1. Determine which lipids contained saturated and which contained unsaturated fats based on your descriptions of the fats in the Petri dishes. Explain what characteristic(s) your choices are based on.
2. Would you describe the fats in these foods as visible fats or invisible fats? Explain.



1. Acetone was used to extract the lipids in these foods. Based on acetone’s structure, explain why it is better for lipid extraction than water.
2. **Part A:** How can you tell that the dark wet spot on the paper towel is fat and not water?
3. **Part A:** Based on the wet spots on the paper towels, rank the 3 foods from most to least percentage fat.
4. **Part B:** Based on the calculation of percentage of extracted lipid, rank the foods from most to least fat.
5. **Comparing Part A to Part B.** 
   1. Do your rankings in Part A and Part B match? Explain.
   2. What might account for the differences in the two methods? (Even if your results show the same ranking, what might account for differences if they had been seen?)
   3. Which method do you think would be the most accurate?
      1. Part A or Part B?
      2. Reflect on the steps you performed in both Parts A & B. List potential experimental errors or difficulties that could occur with both methods AND how those errors could affect the results. **Be specific. Demonstrate thinking.**
6. After completing the above questions, ask the teacher for a copy of the **Nutrition Facts labels** from the packages of all 3 foods.
   1. Based on the nutrition labels, rank the foods from most to least fat.
   2. Did your rankings for either Part A or Part B agree with the ranking of the product labels? Explain.