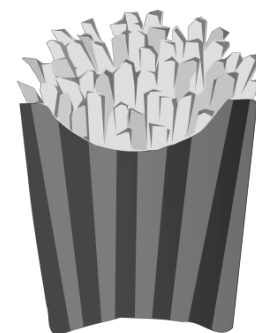


Are Your French Fries Greasy?

Introduction

French fries are one of the most popular foods in the United States; one out of every four potatoes sold in this country ends up as that familiar golden food. While they are popular, French fries are a significant source of fat, all of which comes from the oil they are fried in. In this lab, you will separate the fat from the potatoes to determine which brand of fast food French fries has the highest percentage fat content.



Materials

filter paper
French fries, various brands
paint thinner

Equipment

Erlenmeyer flask, 250-mL

Safety Considerations

- Paint thinner fumes are hazardous to your health; carry out this experiment in a well-ventilated area.
- Do not light any matches or use an open flame during this lab!
- Wash your hands thoroughly after completing this lab.

Procedure A – Day One

1. Select five French fries from a particular fast food source. Record the brand name in your Data Table
2. Using weigh paper, determine the mass of the fries by themselves. Record this value in your Data Table.
3. Place the fries in a 250-mL flask.
4. Add enough paint thinner to cover the fries, but no more than that.
5. Gently shake the flask for several minutes to dissolve the fat in the fries.
6. With the water running, carefully pour off the solvent into the sink. Be careful not to lose any of your sample!
7. Rinse the fries with paint thinner (Steps #4-6) two additional times.
8. Remove the greaseless potatoes from the flask and place them on a piece of filter paper.
9. Label the filter paper with your names, period and the brand of fries and place it in the designated area to dry overnight
10. Repeat Steps #1-9 for two additional brands of fries.

Procedure B – Day Two

1. Using weigh paper, determine the mass of each of your greaseless potato samples and record their values in your Data Table.
2. For each brand of French fries, calculate its mass of fat by subtracting the greaseless mass from the original mass. Record these values in your Data Table.
3. For each brand of fries, calculate its percentage of fat by dividing its mass of fat by its original mass. Record these values in your Data Table.

Clean-up

1. Clean the flasks thoroughly with soap, water and a test tube brush.

2. Return all equipment to its proper location.
3. Wipe down your lab area and wash your hands before leaving the lab.
4. After you've weighed the fries on Day Two, dispose of them in the trash, NOT THE SINK.

Data Table

	Sample #1	Sample #2	Sample #3
Brand			
Mass before treating			
Mass after treating			
Mass of fat			
% Fat			

Questions

1. Which sample of fries contained the most fat? Was this surprising to you? Explain.

2. Why do you think French fries are sold with so much fat in them?

3. What are two alternate ways you could cook French fries that would make them have less fat?

4. How is this lab related to the solutions labs we did several weeks ago?

5. List one way you could change this lab and describe how your results might be different.
