

## Lab Framework

**Text: Amme Applied Mathematics**

**Unit number and title: Unit 21 Dealing with Data**

**Short Description: Students use online resources and a spreadsheet program to compare the fat and calorie content of their favorite food at 10 fast-food restaurants. Then they create healthy choose to all the 10 foods.**

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**Date: June 29, 2011**

### Lab Title

## Drive-Thru Diet

### LAB PLAN

**TEACHER:** Teacher Prep/ Lesson Plan

- **Lab Objective** Students will
- learn the importance of limiting fats (especially saturated) and "empty" calories in their diets.
- compare various food items in terms of fat and caloric content.
- synthesize what they've learned by creating one day's menu of healthful meals available at fast-food restaurants.

- **Statement of pre-requisite skills needed**

Students need to understand Nutrition Facts chart that is found on all food items and that is also available from many restaurants.

- **Vocabulary**

calorie, spread sheet, graphs, average, permutation

- **Materials List**

Student access to the Internet and to a spreadsheet program (such as Excel or AppleWorks). Students also can use the National Center for Educational Statistic's [Create a Graph](#) spreadsheet tool (free and online).

- Pen and paper or a word processing program.

- **State Standards addressed**

Math: A1.6.B Make valid inferences and draw conclusions based on data.

A1.6 may expect students to use statistical language to explain a comparison, inference, or conclusion.

A1.6.A may present data sets numerically or graphically

A1.6.A may expect students to compute and/or evaluate the appropriateness of different measures of center and variability to describe data sets

- **Set-up information**

The equipment needed for this lab is a computer. Knowledge of how to use the computer.

## Lab organization

Students should begin this lesson with a basic understanding of the dangers of a diet high in calories and fat. In addition to classroom materials, you might consider using the FDA's [Dietary Guidelines for Americans 2005](#) and [How to Understand and Use the Nutritional Facts Label](#), although both might require classroom discussion before moving to the activity itself.

Begin the lesson by asking students to raise their hands if they have eaten fast food in the last month. Then ask them to raise their hands if they've eaten fast food in the last week. Then ask them to raise their hands if they've eaten fast food in the last 24 hours. Explain that Americans, just like the students in your classroom, eat regularly at fast-food restaurants. Point out that, although there are many unhealthy choices at those restaurants, healthful choices are available as well.

Explain that in this activity, each student will look up five foods he or she might eat as an entree or main dish at each of five different fast-food restaurants. Students then will use a spreadsheet to compare the fat and caloric content of these choices. They will then do a similar analysis on a complete meal (dessert, side items, and a main item) they may eat at one fast-food restaurant. Finally, they will then try to create a healthful and hopefully tasty menu for a full day of eating at fast-food restaurants.

Have students -- working individually or in small groups -- complete the following steps:

1. Go to [Wake Forest University Baptist Medical Center's Drive-Thru Diet](#).
2. At the top of the page, click the logo of one fast food restaurant. (Pick a restaurant you like to eat at.)
3. Find one main item (hamburger, taco, etc.) at that restaurant and click the item's name. Notice that a small window opens showing nutritional information for that item.
4. Open Excel (or another spreadsheet program). In cell A2, type the name of the restaurant and the menu item (such as, Wendy's: Jr. Cheeseburger). In cell B1, type the words "Fat grams." In cell B2, type the actual fat grams in that item. In cell C1, type the words "Total Calories." In cell C2, type the actual calories in that item. In cell D1, type the words "RDA" (Recommended Daily Allowance). Look at the 2,000-calorie allowance percentages. In cell D2, type the percentage of recommended daily fat contained in that item.
5. Repeat steps 3 and 4 for four different main items sold by four different restaurants. Enter that information in rows 3, 4, 5, and 6 of your spreadsheet.
6. Choose your favorite restaurant from among those listed and select a complete meal from the menu. Include all main items side items, and desserts that you might eat at one sitting.
7. Click cell A9 of the spreadsheet (skipping several rows!) and type the words "My Typical Meal." In cells A10, A11, A12, type the menu items. In cells B10, C10, and so on, enter fat content, calories, and recommended daily allowance of fat.
8. Compare the fat and calorie information for your favorite meal items in steps 1-5 with your favorite meal from steps 6-7. Are you eating a healthful diet?
9. Save and print this worksheet.
10. Open a new spreadsheet. Using the information at [Wake Forest University Baptist Medical Center's Drive-Thru Diet](#), create a healthful menu for breakfast, lunch, and dinner at the restaurants listed. The food should be items you'll eat, but the total should not exceed 2,000 calories or the daily recommended allowance for

fat. Be sure to list any nutritional information that you think proves you've made healthful choices. Save and print your spreadsheet. Collect both worksheets.

You might choose to share some of the better menus as good examples of healthful choices.

11. Students will create question about their spreadsheet and share with a peer to see if they can answer the question Think math questions.

- **Teacher Assessment of student learning** (scoring guide, rubric)

. Students are assessed on the

- Understandings of the impact fat and calories have on health.
- Comprehension of nutritional facts on food items consumed at fast food restaurants.
- Synthesis of nutritional facts as shown by the daily menus they create.
- Time management and basic computer skills.
- Spread sheets of fast food

- **Summary of learning**

Discuss with students the concept that charts and data are all around us. This is also an opportunity to encourage students to make good use of the information that is available to help them make good decisions about nutrition

Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

Date Submitted: \_\_\_\_\_

Title of Work: \_\_\_\_\_

	Criteria				Points
	4	3	2	1	
<b>Explanation</b>	A complete response with a detailed explanation.	Good solid response with clear explanation.	Explanation is unclear.	Misses key points.	___
<b>Use Of Visuals</b>	Clear diagram or sketch with some detail.	Clear diagram or sketch.	Inappropriate or unclear diagram.	No diagram or sketch.	___
<b>Mechanics</b>	No math errors.	No major math errors or serious flaws in reasoning.	May be some serious math errors or flaws in reasoning.	Major math errors or serious flaws in reasoning.	___
<b>Demonstrated Knowledge</b>	Shows complete understanding of the questions, mathematical ideas, and processes.	Shows substantial understanding of the problem, ideas, and processes.	Response shows some understanding of the problem.	Response shows a complete lack of understanding of the problem.	___
<b>Requirements</b>	Goes beyond the requirements of the problem.	Meets the requirements of the problem.	Hardly meets the requirements of the problem.	Does not meet the requirements of the problem.	___
<b>Counter Examples</b>	Includes counter examples.		Does not include counter examples.		___

				<b>Total----</b> > <u>    </u>
<h1>Washington</h1>				

# Applied

- **Career Applications**  
Introduce students to the career field of Dietician and how they use data to help people make healthy nutrition choices.

# Math

# Council

<https://wa-appliedmath.org/>

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