

Activity 2.2.2: Food Labels

Introduction

You have probably looked at the nutritional information on a bottle of soda or a bag of chips. This label provides helpful information about the composition of food as well as the overall nutritional value. This information helps people, especially diabetics, make smart choices about what to put in their bodies.

In Activity 2.2.1 you identified four basic components of common food items. In this activity you will define various terms commonly used on food labels and then analyze food labels to determine the nutritional content of the respective food items. Later in the unit, you will test each food item to determine how much energy the item can provide.

Equipment

- Computer with Internet access
- Food labels (Cheerios cereal, peanut, marshmallow, chips (Doritos®, Fritos®, Cheetos®))
- Activity 2.2.2: Nutritional Terms Chart response sheet
- Activity 2.2.2: Food Label Analysis Chart response sheet
- Activity 2.2.2: Anna Garcia Nutrient Analysis resource sheet
- Activity 2.2.2: USDA Super Tracker resource sheet (Optional)
- Laboratory journal or notebook
- Highlighters – two colors

Procedure

1. Obtain a Nutritional Terms Chart response sheet from your teacher.
2. With a partner, use the Internet to investigate the headings on food labels and complete the chart. The chart serves as an organizer of basic nutritional information. Use the following guidelines for each category:
 - **Definition:** Define what the term means; provide any scientific information that would be helpful.
 - **Importance:** Indicate why this specific factor is important for human body systems. As needed, mention key body systems, organs, tissues or body processes that are affected by intake of this substance.
3. Obtain 3 to 4 food labels from your teacher. You may have been asked to bring these in from home. Additional labels can be found at the Nutri-facts website available at <http://www.nutri-facts.com/>. Note that all of these food labels represent foods consumed by Anna the last days of her life.

4. Examine the categories of information on all four labels. With your partner, determine which 2 labels you feel represent the healthiest foods. Be prepared to share your reasoning with the class.
5. Read the FDA *How to Understand and Use the Nutrition Facts Label* resource found at <http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm>. Refer back to this document as needed as you complete your analysis.
6. Obtain two different color highlighters.
7. Choose one of your food labels. Highlight the nutrients you want to limit in your diet in one color. Highlight the nutrients you want to make sure to get enough of in your diet in another color. Include the highlighted label in your laboratory journal for reference. Make sure to include a color key.
8. Obtain a Label Analysis Chart response sheet from your teacher.
9. Add the name of each food item for which you have a label in the boxes labeled Food 1, Food 2, Food 3, and Food 4.
10. Use the information on the label to determine the Daily Value (DV) for each category. Note how much of this nutrient should be consumed in a 2000 calorie a day diet. Record these values in the DV column on the Label Analysis Chart. Note that for the minerals and vitamins, you will find a Percent Daily Value (%DV). This value describes what percent of your daily consumption of that nutrient is fulfilled with this item.
11. One label at a time, record the provided nutritional information for each category. Record the appropriate daily value or percent daily value per serving listed on each of the four food labels for each category.
12. Observe how these values compare to the total values you should consume each day.
13. Complete Conclusion questions 1- 5.
14. Visit the United States Department of Agriculture (USDA) Food and Nutrition Information Center Dietary Guidance website accessible at: <http://fnic.nal.usda.gov/interactiveDRI/>. Note that the current recommendations for determining daily nutritional requirements focus on Dietary Reference Intakes (DRIs). These values represent nutritional needs while taking into account factors such as age, size, and activity level. While DRIs provide a more accurate representation of specific needs than DVs, they are not used on food labels. Information on food labels remains general.
15. Complete Conclusion question 6.
16. Take out Anna Garcia's Food Diary. You will now take a deeper look into the nutritional content of what Anna consumes in a typical day.
17. Obtain an Activity 2.2.2 Anna Garcia Nutrient Analysis resource sheet. Note that all food items that Anna consumed on August 12th have been entered into an online food tracker by a nutritionist or dietician. This tracker compiles nutritional information and compares what is consumed to daily recommendations.

Alternatively, your teacher may ask you to enter information from Anna's food diary into the USDA SuperTracker food tracker and generate this report. If so, complete the steps on the USDA SuperTracker resource sheet and pick up with step 18 when you are finished.

18. Scan the report(s) and compare what Anna is consuming to recommendations for specific food groups and key nutrients, vitamins, and minerals. Highlight any place where she is under or over her requirements.
19. File the Activity 2.2.2 Anna Garcia Nutrient Analysis Resource Sheet in the appropriate tab of your course file. Use the PBS Course File – Table of Contents as a guide.
20. Use the Internet to research the basics of a diabetic diet. Take notes on what food items a diabetic should make sure to get enough of and which food items he or she should limit. Write 3-4 requirements or recommendations for a healthy diabetic diet in your laboratory journal.
21. Find a food label for a healthy food option for a diabetic (at home or using the Nutri-facts website <http://www.nutri-facts.com/>). Include this label in your laboratory journal under your 3-4 requirements or recommendations. Write a few sentences about why this food is a good choice for a diabetic.
22. Answer the remaining Conclusion questions.

Conclusion

1. Why do you think nutritional information is listed per serving and not per package? What are the pros and cons to this method?
2. Based on your analysis of the food labels from the four foods, would you change your opinion of which foods you considered to be healthy (Step 4)? Explain your answer.

- Describe at least one reason for limiting each of the following in a well-balanced diet - saturated fat, cholesterol, and sodium.
- Choose one food label and calculate the grams of fat consumed if you ate the entire package. What percentage of your daily value of fat would be used at this meal? Show your work.
- Given what you have learned about the function of key vitamins and minerals, explain why it is most often recommended for adults to consume a multi-vitamin once a day along with their regular meals.
- Explain why DRIs are now the preferred value for nutritional intake but are not shown on food labels.
- Describe at least two changes Anna would have to make to her diet to increase her overall health and fitness.

8. Did Anna appear to be following a diet appropriate for a person with Type 1 diabetes? Why or why not?