



LESSON 6

Finding Power Calories

Student Learning Objective:

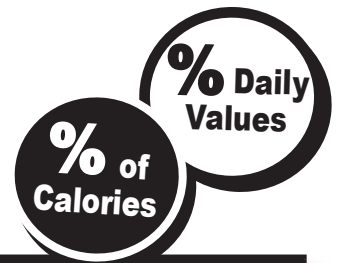
- Use nutrition information on food labels to compare products and select foods for specific dietary goals.

National Health Education Standard:

- Accessing Information

Lesson Synopsis

Check with students on their homework assignment and its due date. Review the definition of “power” calories. Examine the different portions of the food label to determine what information the food label contains and how it can help a person make healthy food choices. Identify how to use food labels to determine nutrient-dense foods. Summarize the lesson.



| Activity | Time | Materials Needed |
|--------------|-------------------|--|
| Introduction | 2 minutes | <ul style="list-style-type: none"> • None |
| Input | 30 minutes | <p>Health Education Resources</p> <ul style="list-style-type: none"> • Poster Set: “MyPlate: Steps to a Healthier You,” Michigan Model for Health Clearinghouse • Mat and Card Set: “What Food Labels Can Tell Us,” six sets, Michigan Model for Health Clearinghouse • Poster: “Using Food Labels to Guide Decisions,” Michigan Model for Health Clearinghouse • Food Label Signs: “Note the Amount,” “Percent of Daily Value,” “Number of Servings,” “Check calories for each serving,” “Limit the items listed in orange,” “Get enough of the nutrients in the yellow area,” “5% or less is LOW,” and “20% or more is HIGH,” Michigan Model for Health Clearinghouse • Cards: “Looking for Nutritious Foods,” Michigan Model for Health Clearinghouse <p>Teacher Manual Resources</p> <ul style="list-style-type: none"> • Slide Master: “Food Label” • Slide Master: “Using Food Labels to Make Healthy Food Choices” (Suggestion) • Slide Master: “Baked Potato” • Slide Master: “French-Fried Potatoes” • Slide Master: “Nutrient Density Formula” <p>Supplied by the Teacher</p> <ul style="list-style-type: none"> • Projector • Slides • Computers with Internet access (Extension Activity) |
| Application | 10 minutes | <p>Health Education Resources</p> <ul style="list-style-type: none"> • Cards: “Looking for Nutritious Foods,” Educational Materials Center <p>Supplied by the Teacher</p> <ul style="list-style-type: none"> • Writing paper • Pens or pencils |
| Closure | 3 minutes | <ul style="list-style-type: none"> • None |
| TOTAL | 45 minutes | |

Preparation

For Input

- **Decide how to divide students** into groups with six students in each group. Try to assign students so that there is a mixture of high and low readers in each group.
- **Prepare slides** from the slide masters, “Food Label,” “Baked Potato,” “French-Fried Potatoes,” and “Nutrient Density Formula.”
- **Display** the poster, “Using Food Labels to Guide Decisions,” with enough space around it to post the food label signs.
- **Prepare a slide** from the slide master, “Using Food Labels to Make Healthy Food Choices,” if you plan to use it instead of the poster, “Using Food Labels to Guide Decisions,” and set of food label signs.
- **Pull** the Baked Potato and French-Fried Potatoes from the cards, “Looking for Nutritious Foods.”

LESSON PROCEDURE

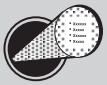

Introduction: Check with students on their homework assignment and introduce the topic of this lesson.

2 minutes

| Instructional Steps | Script and Detailed Directions |
|---|--|
| Check with students on their homework assignment. | <p>Show me a thumbs up signal if you have started your homework assignment that asks you to find reliable resources.</p> <p>Congratulate those who have started and remind students that it is due (date of Lesson 7).</p> |
| Review the definition of “power” calories. | <p>Raise your hand if you remember the video we saw during our first lesson on nutrition and physical activity. Who can tell us what is meant by “power” calories?</p> <p>Answer: A food has “power” calories if it contains lots of nutrients. It is nutrient-dense.</p> <p><i>“Power” calories will help us get the nutrients our bodies need, eat the recommended amount from each food group, <u>and</u> maintain a healthy weight.</i></p> <p>There are six categories of nutrients. If you remember one of the categories of nutrients from a previous health class, raise your hand.</p> <p>Answers: vitamins, minerals, protein, carbohydrates, fats, and water</p> <p>Record the six categories on the board.</p> <p>Redistribute the students’ folders or ask student to get them out.</p> |
| Introduce this lesson. | <p>Today we’ll find out how to tell if various foods are sources of “power” calories.</p> |

Input: Describe what is found in different sections of the food label and how to use the information to make healthy choices. Explain nutrient-dense foods and how to identify them.

30 minutes

| Instructional Steps | Script and Detailed Directions |
|---|---|
| <p>Divide the class into small groups and assign group roles.</p> <p>Display the slide, "Food Label."</p>  <p>Explain the small group task.</p> <p>Explain the different information that can be found on food labels, and how it can help locate nutrient-dense foods.</p> <p>Display the poster, "Using Food Labels to Guide Decisions," and review the different information found on a food label.</p> | <p>Form small groups of students with six students in each group. Assign someone in each group to be the leader.</p> <p><i>Raise your hand if you have heard about food labels before. Perhaps you have heard about them at home or at school.</i></p> <p><i>Let's make sure we know what information is on a food label and how we can use the information to find "power" calories and to choose healthy foods.</i></p> <p><i>In a moment, I'll give each group a mat and card set. The mat has a picture of a food label on it. It is the same food label that is on this slide.</i></p> <p><i>Each of you will take a card and read it to yourself. If you have trouble with some of the words on your card, ask another group member for help or raise your hand and I'll help you.</i></p> <p><i>Find the section or sections on the mat that your card describes. Be prepared to tell your small group members where to find the information on your card and how they might use the information to make healthy food choices.</i></p> <p>Give each small group a food label Mat and Card Set.</p> <p><i>Take three minutes of quiet reading and thinking time. When I indicate that time is up, you can begin sharing the information in your group. You'll have about fifteen minutes to share in your small group.</i></p> <p>When the groups are finished, review the major parts of the food label. Point to a section of the food label on the slide and call on various students to describe in their own words what information the section provides and how it will help them make healthy food choices.</p> <p>Display the poster, "Using Food Labels to Guide Decisions."</p> <p><i>There is a lot of information on this small label. It's hard to remember it all. Let's start by keeping these key parts in mind as we look at food labels today.</i></p> <ul style="list-style-type: none"><i>• Note the amount suggested as a serving and how many servings are in a package. This will help you decide the amount you choose to eat.</i><i>• Try to lower the total fat, saturated fat, trans fat, sodium and cholesterol. These items are in orange. Five percent or less is a low amount. Twenty percent is high.</i><i>• Try to get enough fiber, vitamins, and minerals. These items are in yellow. Five percent or less is a low amount. Twenty percent is high. Focus especially on vitamins A and C, calcium, iron, and potassium.</i>  <p>Use the slide, "Using Food Labels to Make Healthy Food Choices," if you prefer.</p> |



The U.S. Food and Drug Administration has a wonderful website that will reinforce the content of this lesson. Have students visit the site to double check the content of this lesson: www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm

Define nutrient-dense foods.

We are looking for “power” calorie food and beverages. “Power” calorie food and beverages are nutrient-dense. We can use the information on the food label to tell if a food is nutrient-dense. A nutrient-dense food has a higher proportion of one or more nutrients than it has calories. Another way to say it is that the amount of nutrients received from the food is high in relation to the number of calories.

Display the slide, “Baked Potato,” and explain how to use the cards, “Looking for Nutritious Foods.”

Display the slide, “Baked Potato.”

This bar graph gives us information on the major nutrients in a baked potato. Each bar shows what percent of the daily requirement is provided if a person eats this potato. It is based on an average 2,000-calorie diet.



Explain each of the bars on the graph.

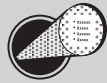
Foods are considered to be nutrient dense if they provide a higher percentage of at least one nutrient than the percentage of calories. If any of the bars are taller than the gray bar that represents “calories,” the food is nutrient dense.

Hold up the Baked Potato card and show students the pie chart on the back of the card. Point out that a baked potato has no fat unless toppings are added.

Display the slide, “French-Fried Potatoes.”

Display the slide, “French-Fried Potatoes.”

*French fries are potatoes. Right? **Are French fries a nutrient-dense food? How do you know?***



Answer: No. The gray calorie bar is taller than the other bars.

Hold up the French-Fried Potatoes card and show students the pie chart on the back of the card. Point out the increase in fat.

Frying the potato added a lot of fat, which increases the calories and contributes additional fat to the diet. How foods are prepared impact their nutrient density.

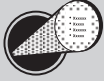
Display the slide, “French-Fried Potatoes,” again.

*Note the portion size for French fries. It is ten fries. Think about the last time you ate French fries. Did you eat only ten fries? You probably ate more. Next time you get an order of fries, count the number of fries. You need to add the calories and fat grams for every ten fries eaten. **So, if you eat twenty fries, how many calories and fat grams have you consumed?***

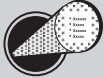
Answer: Twenty fries contain 316 calories and 16 grams of fat.

Explain how to use the food label to determine if a food is nutrient dense.

Display the slide, "Nutrient Density Formula."



Display the slide, "Food Label."



We probably aren't going to carry a set of food cards around with bar graphs on them. So, let's use the food labels to determine if a food is nutrient dense. It takes a little math.

Divide the calories in one serving by 2000 to get the percent of calories. Then, compare this percentage with the percentages the other nutrients supply. If the percent of calories is lower than the other percentages, the food is nutrient dense.

Display the slide, "Food Label," once again.

Is this food a "power" calorie food? Explain your answer.

Answer: Yes, 250 divided by 2000 is 12%. This is the percent of calories. The food provides 20% of the calcium a person needs if he or she eats a 2000-calorie diet.

Remember that fat is also a nutrient. Our bodies need some fat to be healthy. However, this is one nutrient that we want to limit because too much fat can cause health problems and make it difficult to manage your weight.



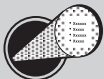

Have students examine the nutrients found in a homemade meal. They could try combining the food labels of the ingredients in the meal. Another option is to use sparkpeople.com. This website has many tools for evaluating different food choices. There is no charge for using sparkpeople.com.



Ask students to bring foods to class that are under 100 calories so that classmates can try them. Use the food labels on the packages to check on the nutrient content. Be sure to follow your district's policies related to food shared in the classroom.


Application: Practice using food labels to determine whether or not foods are a healthy choice and/or nutrient dense.

10 minutes

| Instructional Steps | Script and Detailed Directions |
|---|--|
| <p>Identify other nutrient-dense foods using the cards, "Looking for Nutritious Foods."</p> <p>Display the slide, "Nutrient Density Formula."</p>  | <p>Distribute the cards, "Looking for Nutritious Foods," so that each student has one or two.</p> <p><i>Look at the bar graph on your card. Raise your hand if you think you have a nutrient-dense food.</i></p> <p>Sample the students to be sure they are reading the charts correctly.</p> <p><i>Now, use math to find out the percent of calories by using the food label on the back. Remember to divide the number of calories in one serving of the food by 2000.</i></p> <p>Sample responses from students.</p>  <p>Have students with nutrient-dense foods stand on one side of the room, and students with foods that are not nutrient dense on the other side. Have them name the foods they have on their cards.</p> |

Closure: Summarize the lesson by having students identify what they learned about food labels.

3 minutes

| Instructional Steps | Script and Detailed Directions |
|---|--|
| Discuss with students what they have learned. | <p><i>Think about food labels and all of the information they give us.</i></p> <p><i>What is something you can find on a food label that you didn't realize was there before our lesson today?</i></p> <p><i>What is one piece of information on a food label that you will use to choose healthy foods?</i></p> <p>Collect the students' folders or ask student to bring them to each class.</p> |
| Introduce the next lesson. | <p><i>In our next health lesson, we will explore other ways food packages tell us about what they contain.</i></p> <p><i>Be sure to bring in any additional food packages you may have gathered. We will be using them in our next lesson.</i></p> <p></p> <p>Remind students to bring in restaurant nutrition content pamphlets. You will need them in Lesson 8.</p> |





Food Label

| Nutrition Facts | |
|--|--------------------------------|
| Serving Size 1 cup (228g) | |
| Servings Per Container 2 | |
| Amount Per Serving | |
| Calories 250 | Calories from Fat 110 |
| % Daily Value* | |
| Total Fat 12g | 18% |
| Saturated Fat 3g | 15% |
| <i>Trans</i> Fat 3g | |
| Cholesterol 30mg | 10% |
| Sodium 470mg | 20% |
| Potassium 700mg | 20% |
| Total Carbohydrate 31g | 10% |
| Dietary Fiber 0g | 0% |
| Sugars 5g | |
| Protein 5g | |
| Vitamin A | 4% |
| Vitamin C | 2% |
| Calcium | 20% |
| Iron | 4% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs: | |
| | Calories: 2,000 2,500 |
| Total Fat | Less than 65g 80g |
| Sat Fat | Less than 20g 25g |
| Cholesterol | Less than 300mg 300mg |
| Sodium | Less than 2,400mg 2,400mg |
| Potassium | 3,500mg 3,500mg |
| Total Carbohydrate | 300g 375g |
| Dietary Fiber | 25g 30g |



Using Food Labels to Make Healthy Food Choices

Note the amount suggested as a serving and how many servings are in a package.

Choose foods low in total fat, saturated fat, *trans* fat, cholesterol, and sodium. Five percent or less is a low amount. Twenty percent is high.

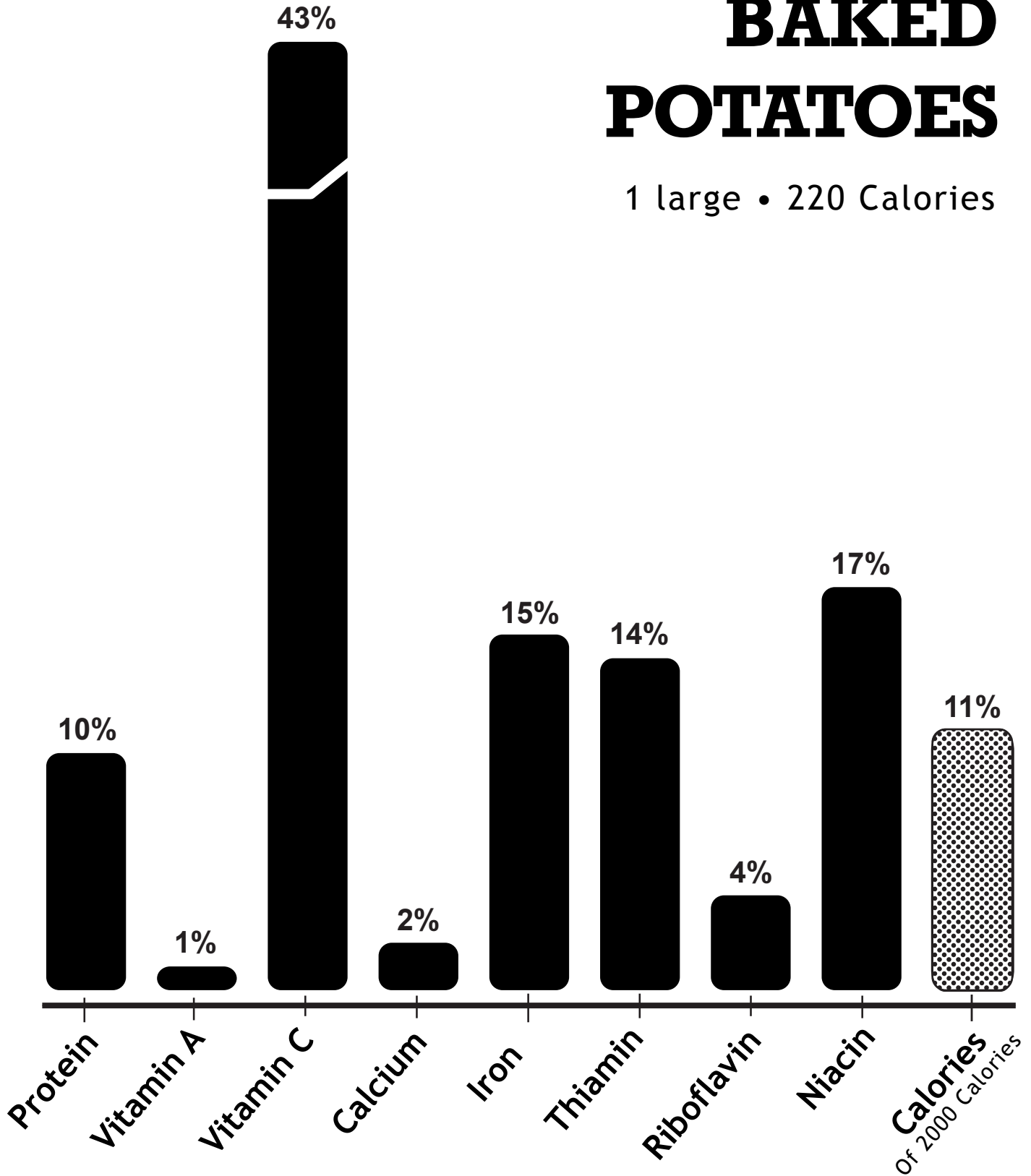
Choose foods high in fiber, vitamins, and minerals. Five percent or less is a low amount. Twenty percent is high.

| Nutrition Facts | |
|--|------------------------------|
| Serving Size 1 cup (228g) | |
| Servings Per Container 2 | |
| Amount Per Serving | |
| Calories 250 | Calories from Fat 110 |
| % Daily Value* | |
| Total Fat 12g | 18% |
| Saturated Fat 3g | 15% |
| <i>Trans</i> Fat 3g | |
| Cholesterol 30mg | 10% |
| Sodium 470mg | 20% |
| Potassium 700mg | 20% |
| Total Carbohydrate 31g | 10% |
| Dietary Fiber 0g | 0% |
| Sugars 5g | |
| Protein 5g | |
| Vitamin A | |
| Vitamin C | 4% |
| Calcium | |
| Iron | 2% |
| | 20% |
| | 4% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs: | |
| | Calories: 2,000 2,500 |
| Total Fat | Less than 65g 80g |
| Sat Fat | Less than 20g 25g |
| Cholesterol | Less than 300mg 300mg |
| Sodium | Less than 2,400mg 2,400mg |
| Potassium | 3,500mg 3,500mg |
| Total Carbohydrate | 300g 375g |
| Dietary Fiber | 25g 30g |



BAKED POTATOES

1 large • 220 Calories

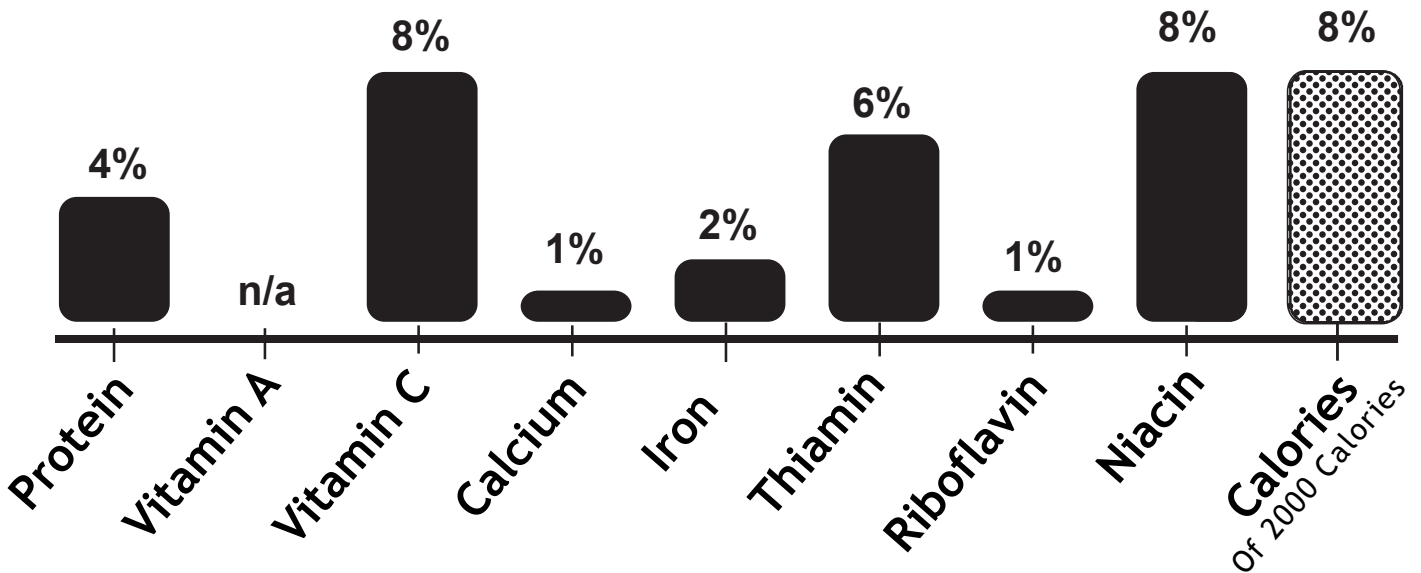


PERCENT DAILY VALUE



FRENCH-FRIED POTATOES

10 Strips • 158 Calories



PERCENT DAILY VALUE

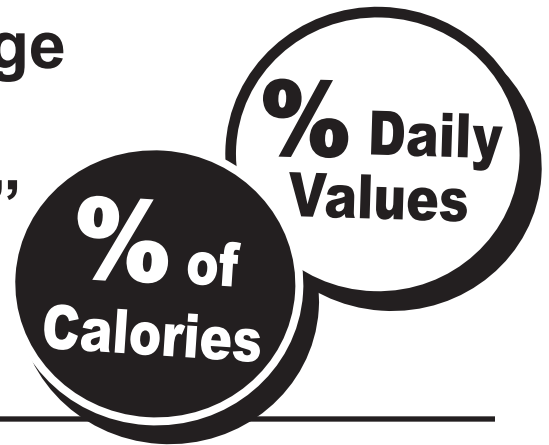


Nutrient Density Formula


1. Divide the number of calories in one serving by 2000. This is the percentage of calories.

$$\# \text{ Calories} \div 2000 = \% \text{ Calories}$$

2. Compare the percentage of calories to the “Percent Daily Values.”



3. If the percentage of calories is lower, you have found a nutrient-dense food.

 **nutrient-dense food**

% Calories < % Daily Values

