

# Fat Facts

WIN Kids Curriculum for 5<sup>th</sup> and 6<sup>th</sup> grade

Designed for classrooms, community youth groups, and other educational settings



## Lesson Objectives

- Determine the amount of fat in a food.
- Understand the value of fat as a nutrient.
- Identify and start to make lower-fat food choices.



## Wellness IN (WIN) the Rockies Principles

- Take pleasure in eating.
- Honor the gift of food.



## Health Standards

### Content Area - Nutrition and Dietary Behavior

National Health Standards 1 (concepts), 2 (access information), 6 (decision-making) and 7 (advocacy)

Wyoming Health Content and Performance Standards 1, 2, 6 and 7

Montana Health Enhancement Content Standards 1 and 5

Idaho Grade 5 Health Performance Standards 941 and 944

Idaho Grade 6 Health Performance Standards 951 and 954

Note: Suggested standards can be met depending upon lesson components selected and assessed. Potential assessment tools are designated with a ✓.



## Approximate Length

- 30 – 40 minutes



All fats are not  
created equal!



## Materials and Preparation

Handouts (1 per student):

Fat Kits Worksheet

Food Choices in My Life

I Can Do It (colored paper)

Daily Fat Allowance visual (measure 5 tablespoons, 1 teaspoon, and ¼ teaspoon of shortening into a plastic, sealable bag to represent 65 grams of fat)

Can of shortening

Variety of foods (suggestions: candy bars, potato chips, tortilla chips, low-fat chips, non-fat chips, sunflower seeds, pretzels, granola bars, cookies, butter-flavored microwave popcorn, light microwave popcorn, ramen-type noodles, hard candy)

Measuring spoons

Sandwich-size plastic bags with sealable closings

Scale to weigh food

Poster board or heavy paper (approximately 8" x 10", 1 per group of 2 to 3 students)



## Background for Educator

Fat is an essential nutrient that has many important functions in the body.

- \* insulation - helps protect our body from excessive heat loss so we stay warm
- \* energy - provides energy for the body to use (9 calories per gram)
- \* cushioning - provides support and protection for vital organs
- \* fullness - fat in our meals takes longer to digest so we feel full longer
- \* taste - often adds a desirable flavor to food
- \* skin and hair - helps prevent hair loss and dry, flaky skin
- \* transportation - carries the fat-soluble vitamins A, D, E and K
- \* essential - provides essential fatty acids, which are part of cell structure, cause smooth muscles to contract and are involved in hormone function

Energy or calories from food comes primarily from fat, protein and carbohydrates. Fat is more concentrated in energy as it provides 9 calories per gram while protein and carbohydrates provide 4 calories per gram. It is recommended we consume no more than 30 percent of our daily calories from fat and no more than 10 percent of our daily calories from saturated fat. These percentages are not intended to apply to individual food choices, but rather to total daily food intake. One way to assess high-fat foods and make food choices is to look at grams of fat.

What are the types of fat?

**Saturated fats** are usually solid at room temperature and found mainly in animal fat. A few plant sources of saturated fat are palm oil and coconut oil. Eating too much saturated fat tends to raise blood cholesterol levels and increases the risk for heart disease.

**Unsaturated fats** occur in vegetable oils, most nuts, olives, avocados, and fatty fish like salmon. Eating foods with unsaturated fats (oils) does not tend to raise blood cholesterol levels. Unsaturated oils include both monounsaturated fats and polyunsaturated fats. Olive, canola, sunflower, and peanut oils are high in monounsaturated fats. Vegetable oils such as soybean oil, corn oil, and cottonseed oil and many kinds of nuts are good sources of polyunsaturated fats. Some fish, such as salmon, tuna and mackerel, contain omega-3 fatty acids that likely offer protection against heart disease.

**Trans Fatty Acids** are found in foods high in partially hydrogenated vegetable oils, such as hard margarine and shortening. Eating foods high in trans fatty acids tends to raise blood cholesterol levels.

Too much fat in the diet can lead to health problems such as the following:

- \* increased risk for heart disease
- \* excessive body fat
- \* increased risk for certain types of cancer
- \* increased risk for stroke

One of the best ways to reduce fat is to eat more fruits, vegetables and whole grains! These foods provide many nutrients with fewer calories and less fat than many highly processed foods. Rather than a “don’t eat bad food” message, try an “eat more low-fat foods” message.



# Lesson Script

## Fat Facts Overview

1. Everyone needs fat in their diet. Why do we need fat? (*Write responses on board and refer to background section.*)
2. Depending on our food choices, we can get too much fat. What happens if we eat too much fat day after day, year after year? (*Write responses on the board and refer to background section.*)
3. Calories are the units of energy we get from food. Three main sources of nutrients provide calories: carbohydrate – primarily from breads, cereals, fruits and vegetables; protein – primarily from meat, eggs, milk, beans and cheese; and fat – primarily from oil, butter, lard and shortening. Fat has more than twice as many calories than carbohydrates or protein.
4. (*Hold out your hands palms up.*) A gram is a unit of weight. If I were holding one gram of fat in my left hand and one gram of protein or carbohydrate in my right hand, which hand weighs more? They weigh the same! However, I get 9 calories from the gram of fat and 4 calories from the gram of protein or carbohydrate. Fat provides more calories or energy by weight than carbohydrate or protein.
5. (*Hold up the bag of fat you prepared to show 65 grams.*) This bag contains about 65 grams of fat in the form of shortening. This shows the Daily Value or recommended limit for fat used on food labels, based on a 2,000 calorie per day intake. That means, this is the most fat that is suggested for someone who eats 2,000 calories per day.

## Fat Kits Activity

1. Let's divide into teams. (*Distribute **Fat Kits Worksheet**. ✓ Divide class into groups of 2 to 3 people.*)
2. Each group will determine the amount of fat in a food item and create a visual display similar to the bag of 65 grams of fat.
3. Use and complete the worksheet as you go. Using the food label, figure out the grams of fat in one serving of your food item. Follow the directions on the worksheet to measure the shortening to show that amount of fat. The shortening will be placed in one plastic bag. One serving of the food will be placed in another plastic bag.
4. Attach the food label to a piece of poster board and then staple the two plastic bags on the poster board with the serving bag on top of the fat bag.

5. Present your findings to the class. ✓

6. (*Summarize and discuss.*)

Should you ever eat food items that are high in fat?

*(YES! All foods can be part of a balanced eating plan. It is the quantity that counts. Enjoy high-fat foods in moderate amounts.)*

How did similar items compare to each other?

*(Regular versus low-fat chips, chips versus pretzels, buttered versus light popcorn.)*

### Food Choices in My Life: Goal Setting Activity

1. (*Distribute **Food Choices in My Life** and **I Can Do It** handouts.*) Most of us can eat better by eating less fat. Think about foods you eat that are high in fat. Write them on the **Food Choices In My Life** handout. Think about foods you could eat instead, or how to eat high-fat foods less often.

2. Place a star next to the 2 or 3 food changes you want to make in the next 2 weeks. Write this goal on the **I Can Do It** sheet and place the sheet where you can see it often.

3. (*Two weeks later.*) Review and write a short paper ✓ covering:

What was your goal?

Did you meet your goal? If not, what can you try differently?

What did you learn through this activity?



### WIN the Home: Food Investigator

Ask students to investigate food labels around their home. Look for higher-fat and lower-fat choices. If possible, ask students to bring food items and labels to class and share what they discovered. ✓

*Please note: pilot testing of lessons has determined that WIN the Home activities are most successful when students have time over a weekend to complete them, when a follow-up is conducted in class, and when students receive credit for completion.*



### WIN the Community: Fat Displays

Combine the Fat Kits and the **Words to Watch** poster (see *Additional Ideas*) into displays and/or presentations. ✓ Share with the community at health fairs, and in school cafeterias, other classrooms, churches, senior centers, bank lobbies, and recreation centers.



## Additional Ideas

➤ **LANGUAGE Option** – Certain words on food labels and ingredient lists indicate fat in food products. Create a spelling list. Ask students to make a poster with these **Words to Watch**. ✓

### *Ingredients:*

butter	soybean oil
lard	canola oil
olive oil	coconut oil
palm oil	safflower oil
margarine	vegetable shortening
cottonseed oil	sunflower oil

### *Processing or cooking methods:*

buttered/buttery  
fried  
creamed/creamy  
scalloped  
au gratin

➤ **Types of Fat** - Demonstrate and explain types of fat using oils, tub margarine, stick margarine, and butter. Eating less saturated fat is a healthful change. Usually, saturated fats are firmer. Exceptions are palm oil and coconut oil. These have a longer shelf life and provide processed foods with some appealing taste and texture qualities.

➤ **Recipe Revisions** - Substitute or adjust ingredients in a recipe or meal to reduce total fat and saturated fat. For example, substitute oil for shortening (texture of baked products will change), decrease fat by 1/4 to 1/3, substitute a lower-fat cheese or milk, bake instead of fry, select leaner meats, add more fruits and vegetables, reduce portion size, and/or trim visible fat off meat. Prepare the revised meal or recipe and analyze the results. ✓



## Sources and Materials

Melcher, Linda and Harrington, Karen. *Altering Recipes For Health*. Educational Kit. University of Wyoming Cooperative Extension Service, Cent\$ible Nutrition Program. 1997.

United States. Department of Agriculture and Department of Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans*. 5th ed. Home and Garden Bulletin No. 232, 2000.

**WIN the Rockies** wishes to thank all of the educators who reviewed this lesson and offered suggestions. Reviewers included: Wendy Smith and her students, Vicki Hayman, Rhonda Andersen, Cyndy O’Neal, Mike Liebman, Joan Gunnerson, Sylvia Moore, Betty Holmes, Suzy Pelican, and Tawn Corcoran.

You may reproduce WIN Kids for educational purposes but not for sale purposes. Please credit as follows: *WIN Kids Lesson*, Wellness IN the Rockies, [www.uwyo.edu/wintherockies](http://www.uwyo.edu/wintherockies).

**WIN Kids Lesson** ♦ Wellness IN the Rockies

[www.uwyo.edu/wintherockies](http://www.uwyo.edu/wintherockies)

Phone: 307-766-4908 ♦ Fax: 307-766-2492

Dept 4238, 1000 E University Ave ♦ University of Wyoming ♦ Laramie, WY 82071-4238

Developed by Mary Kay Wardlaw, Project Education Specialist



WIN the Rockies is a community-based research, development and education project to improve health of residents in Idaho, Montana and Wyoming. Supported by award 0004499 through IFAFS (Initiative for Future Agriculture and Food Systems) Competitive Grants Program/USDA.

The University of Wyoming, Montana State University, the University of Idaho and the United States Department of Agriculture cooperating. These universities are equal opportunity affirmative action institutions. 1203