

Fats

Main objectives: To discuss that fat, in general, is an important part of one's diet. To emphasize that fat is very high in energy and thus we do not need to consume a large amount. To distinguish between healthy and unhealthy fats and show that some types are better to eat than others.

Essential Discussion Topics:

- *What is fat?* Ask the class what they think about fat, and whether they think fat is healthy. Fat is one of the main nutrients in our diet, just like proteins and carbohydrates. Fat contains a lot of energy that our body can use for storage – even more energy than carbohydrates and protein. Fat is an essential component of the cells of our body (can briefly mention cell membranes here). On a larger level, fat plays many important roles in our body: is an important component of our brains and nerves, keeps our skin and hair healthy, keeps us warm when we are exposed to cold temperatures, cushions our vital organ from injury, important in the absorption of certain vitamins – A, D, E, and K (review of fruits and veggies lesson - ask students if they remember what any of these vitamins do or what foods they can be found in). Clearly fat is an important part of our diets if it does all of this, so we need to eat fat to be healthy. There are certain essential fatty acids we need to eat that our bodies cannot make.
- *Why does fat get such a bad reputation?* Most of the time when people talk about “fatty foods,” they are referring to foods with large amounts of unhealthy (saturated, as we will discuss later) fat in foods with little nutritional value. There are different kinds of fat, some of which are better to eat than others. Since our diets usually include plenty of the unhealthy saturated fat, these foods are not healthy to eat too much of.
- *What is the difference between healthy and unhealthy fats?*
 - Healthy fats are **unsaturated**. It is easy to remember which fats are healthy because they are generally liquids (oils) at room temperature and come from plants. This is not exclusive, but a general rule (i.e. avocados are solid at room temperature, but contain healthy fats).
 - Unhealthy fats, or **saturated fats**, are generally solid at room temperature and come from animals. The most important exception to this rule is fish, which generally have healthy fat.
 - A **trans fat** is a normal fat molecule that has been twisted and deformed during a process called hydrogenation. Partially hydrogenating vegetable oils makes them more stable and less likely to spoil, which is very good for food manufacturers—and very bad for you. No amount of trans fats is healthy. Trans fats contribute to major health problems, from heart disease to cancer.
 - **Omega-3 fatty acids** are a type of polyunsaturated fat. While all types of unsaturated fats are good for you, omega-3 fats are proving to be especially beneficial. Research has shown that they can: protect against memory loss and dementia and reduce the risk of heart disease, stroke, and cancer, among others.

Supplementary Discussion Topics:

- *Portion sizes:* Fat is important, but we don't need to eat a large amount to be healthy. In fact, it is very easy to eat too much fat since it is very dense with energy. Fat contains over twice the amount of energy (per gram) than carbohydrates and protein (9 vs. 4 calories per gram). We don't want to be overly descriptive about exact serving sizes, but give a few basic examples (a few slices of avocado, a handful of nuts, a tablespoon of salad dressing) as reasonable amounts.
 - The recommended intake for trans fat is as little as possible and as close to 0g as possible. The recommended intake for saturated fat is 12-17g/day.

Activities:

- *Healthy vs unhealthy fats:* Have students stand in the middle of the room. Label one corner of the room as "Healthy Fat" and the other as "Unhealthy Fat". Call out various food items that contain fat and have the students move to the side of the room that corresponds to the type of fat they think the item contains. Make sure to include flax seed and fish oil and emphasize that there are certain fatty acids that our body cannot synthesize, and therefore it is imperative that we have these included in our diet. Also try and include things like walnuts that have fat that students may not initially think about as containing fat. (see table below)
- *Which fat is which?* Show students how The Nutrition Label reports total fat and then breaks that down further into saturated fat, trans fat, polyunsaturated fat and monounsaturated fat. Break students into small groups. Provide each group with a few nutrition labels. As a team, have students put the foods in order from most to least healthy based on the break down of fat content.

Food Activities:

- *Fats in Snack Foods:* Give each student a piece of brown paper with squares drawn on it. Walk around and place a few drops of olive oil in one of the squares on each student's paper. Talk about what fat looks like on the paper. Rub different snack items on different labeled squares to see which ones are also oily/fatty. Try things like pretzels, potato chips, chocolate chip cookies, apples, popcorn with butter, popcorn without butter, granola bars, etc. Discuss healthy snack options.

Snack Ideas:

- *Guacamole.* Have a few avocados (4-5) to show the class. Cut the avocados in half, remove the seed and scoop out the flesh into a large bowl. Cut 1-2 limes in half and squeeze juice over the avocado. Mash up the avocado with a fork until it is somewhat mixed. Add minced white onion (you can soak the onion in some cold water beforehand to make it a little more mild). Add a minced jalapeno pepper and chopped cilantro. Add salt and pepper. Have other vegetables, like chopped tomatoes and corn, on the side for the class to add on

their own. Have a bag of multigrain tortilla chips – give each student a small portion on a plate. Give out a few spoonfuls of guacamole for each plate.

- *Health Nut Snack Mix.* Have students help measure ingredients and mix together. Can do a wide variety of mixes. One healthy option: 1 cup nuts (try something lower in fat like almonds), 2 cups pretzel sticks, 2 cups Multigrain cheerios, ½ cup dried cranberries, ½ cup raisins. Something a little more fun: PB&J Mix – peanuts, dried fruit (strawberries or blueberries), peanut butter chips, cereal (Multigrain cheerios, shredded wheat cereal).

Supplemental Materials:

GOOD FATS	
Monounsaturated Fat	Polyunsaturated Fat
<ul style="list-style-type: none"> ▪ Olive oil ▪ Canola oil ▪ Sunflower oil ▪ Peanut oil ▪ Sesame oil ▪ Avocados ▪ Olives ▪ Nuts (almonds, peanuts, macadamia nuts, hazelnuts, pecans, cashews) ▪ Peanut butter 	<ul style="list-style-type: none"> ▪ Soybean oil ▪ Corn oil ▪ Safflower oil ▪ Walnuts ▪ Sunflower, sesame, and pumpkin seeds □ Flaxseed ▪ Fatty fish (salmon, tuna, mackerel, herring, trout, sardines) ▪ Soymilk ▪ Tofu

BAD FATS	
Saturated Fat	Trans Fat
<ul style="list-style-type: none"> ▪ High-fat cuts of meat (beef, lamb, pork) ▪ Chicken with the skin ▪ Whole-fat dairy products (milk and cream) ▪ Butter ▪ Cheese ▪ Ice cream ▪ Palm and coconut oil ▪ Lard 	<ul style="list-style-type: none"> ▪ Commercially-baked pastries, cookies, doughnuts, muffins, cakes, pizza dough ▪ Packaged snack foods (crackers, microwave popcorn, chips) ▪ Stick margarine ▪ Vegetable shortening ▪ Fried foods (French fries, fried chicken, chicken nuggets, breaded fish) ▪ Candy bars