



Fats

4th – 5th Grade Lesson Plan

Goal: Students will be able to recognize fat as an essential nutrient and categorize the different types of dietary fats.

Objectives:

1. Students will be able to identify healthy and unhealthy fats, and sources of each.
2. Students will be able to locate total, saturated, and trans fats on the Nutrition Facts label.
3. Students will be able to identify some of the adverse effects that can result from excessive fat consumption.

Materials Needed

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| <input type="checkbox"/> Low-fat claims pictures | <input type="checkbox"/> Brown paper bags with seeds, butter, and Takis |
| <input type="checkbox"/> Fat Cat Poster | <input type="checkbox"/> Un, Sat, Trans raps |
| <input type="checkbox"/> Solid and Liquid Fats poster | <input type="checkbox"/> Milk poster |
| <input type="checkbox"/> Un, Sat, Trans Posters | <input type="checkbox"/> Fat Facts or Fiction game |
| <input type="checkbox"/> Sources of Un, Sat, and Trans Posters | <input type="checkbox"/> Fat tubes and corresponding pictures |
| <input type="checkbox"/> Artery Model or Picture of Clogged Artery | <input type="checkbox"/> Food and equipment for taste test |

Lesson	
Talking Points	Materials/Activities/Notes
Review <ul style="list-style-type: none"> • Who remembers what we talked about the last time I was here? • Does anyone remember the challenge I gave you? 	
Mind Grabber <ul style="list-style-type: none"> • “Unjunk yourself” video by Turn the Tide foundation: http://www.youtube.com/watch?v=PLaS0En9Q98 <p>OR</p> <ul style="list-style-type: none"> • Today, we are going to talk about how to keep your heart healthy. First, let’s see how much you know about your heart. <p style="text-align: center;">“Heart Smart Energizer”</p> <ol style="list-style-type: none"> 1. Begin with a brief introduction of the heart: <ul style="list-style-type: none"> ○ Where is the heart located? <i>On the left side of the chest.</i> ○ How big is your heart? <i>About the size of your fist.</i> ○ What does your heart do? <i>Delivers blood to your body.</i> ○ What strengthens your heart? <i>Being active and eating the right foods.</i> ○ What weakens the heart? <i>Not being active and unhealthy foods.</i> 2. Call out a habit that strengthens or weakens the heart. If the habit strengthens the heart, students will respond by jumping. If the habit weakens the heart, the student will respond by squatting. 	

OR play this video at the end of the lesson as part of the wrap up.

OR use this energizer at the end of the lesson.

- Riding a bike (*jump*)
- Eating greasy pizza (*squat*)
- Playing basketball (*jump*)
- Dancing with your friends (*jump*)
- Eating doughnuts (*squat*)
- Watching TV all the time (*squat*)
- Washing the car (*jump*)

OR

- Have you ever seen the words “low fat”, “reduced fat”, or “fat free” on a food label?
- These claims could make us think that fat is something we shouldn’t eat. But, did you know that everyone needs some fat every day to survive? However, some fats are healthier than other fats, and it is easy to get too much. Today, we will talk about fat “facts” or “fiction” and learn about the healthy and unhealthy types of fat.

Show sample food labels or posters of products that have low-fat and fat-free claims on them.

Discussion

Introduction

- Today, we are going to talk about another one of our superheroes, Fat Cat. When most of us hear the word “fat” we think it is a bad thing.
- Did you know that not all fats are created equal? Everyone needs fat every day to survive. Fat is a nutrient that our bodies need – does anyone remember what a nutrient is?
- Today, we are going to learn about eating the types of fat that can help your heart, and how to eat less of the types of fat that can hurt your heart.

Show Fat Cat Poster

Forms of fat

- Fat is found in two forms: solid fats (like butter and fat on meats) and liquid fats (like vegetable oils).
 - **Liquid fats:** (like oils) come from different plants and some fish, like salmon. Examples of oils include canola oil, olive oil, soybean oil, sunflower oil. Nuts, avocados, and fatty fish (like salmon) are naturally high in oil.
 - **Solid fats:** (like butter) come mainly from animals. Examples of solid fats that come from animals are butter and pork fat (lard).

Show students Solid Fats and Liquid Fats poster.

Types of fat

- (*Optional*) Place a handful of sunflower seeds (unsaturated fat) in a brown paper bag, and a piece of butter (saturated fat) in another paper bag. Show students the two paper bags. Point out their oil stains and tell the students that each of the bags contains a snack food that has fat, but that each snack is made up of a different type of fat. Remember, not all fats are created equal. In a moment, you’ll learn what snack is in each bag and which is best for your body.
- Let’s meet 3 of Fat Cat’s relatives and learn how some of his relatives help our heart while others can hurt our heart.
- Are you ready to meet one of Fat Cat’s heart helper relatives? Great, let’s meet Un.

The Heart Helper: Unsaturated fat:

- Un is short for unsaturated fat.
- Unsaturated fat is the healthy type of fat that helps your heart stay healthy.
 - Un is found mainly in liquid fats (oils) from plants (like olives) and fish; nuts and seeds, such as walnuts, peanuts and sunflower seeds; and avocados.
 - If using, show the brown paper bag with the sunflower seeds. Tell the students that sunflower seeds contain fat (seen by the oil stain), but the unsaturated fat in the seeds actually helps your heart.
- To remember sources of unsaturated fat, imagine our friend, Un, the avocado, swimming around with fish in a sea of oil. And instead of water bubbles coming out of Un's mouth, he has nut bubbles!
- Optional Activity: Lead class in a rap or have a student read Un's Rap:

UN's Rap

Hey, Ms. _____ class! I'll tell you what's cooking.
 If it's for unsaturated fat that you are looking.
 To eat this healthy fat, here's what to do:
 Try olive oil, safflower, canola too.
 And avocados, salmon, nuts and seeds are fun.
 Sorry class, UN's got to run!

- Do you remember meeting two of Fat Cat's relatives (Sat and Trans) when we discussed Label Reading? Sat and Trans are some of Fat Cat's relatives that can hurt your heart – let's call them heart breakers.

The HeartBreakers: Sat and Trans

- Raise your hand if you have ever heard of the word "heart attack" or "stroke." Eating too much of Sat and Trans can hurt your heart and may lead to heart attacks and strokes as you get older.
- Say hello to Sat, short for saturated fat.
 - Sat is found mainly in solid fats from animals (like beef), dairy products (in whole milk and cheese), butter, and some liquid oils, called tropical oils such as coconut oil.
 - If using, show the brown paper bag with the butter. Tell the students that butter contains saturated fat (seen by the oil stain) that can hurt your heart.
- To remember the sources of saturated fat, imagine Sat, the cheeseburger and his friends. He likes to hang out on the farm with all the animals!
- Optional Activity: Lead class in a rap or have a student read Sat's Rap:

SAT's Rap

Sat's my name and solid fat is my game. Greasy food is my claim to fame!
 I'm found in animals – in beef, chicken and pork fat.
 And butter, tropical oils, milk and cheese are where I'm at.
 Raising your cholesterol is not all that I do,
 You see I like to clog your arteries too!

- Now, let's meet Sat's brother, Trans.
 - Trans is sometimes found in sweets like cakes, cookies, and doughnuts and greasy foods like chips, French Fries and margarine (which looks like butter, but isn't really butter, it is manmade).

Show Un Poster

Show sources of unsaturated fats poster

Show Sat poster

Show sources of saturated fats poster

Show Trans poster

- You can remember sources of trans fat because he hangs out with his buddies at the grocery store. They all seem to be eating junk food (or processed food) every time I see them!
 - Optional clarification on trans fat: The reason that trans fat is usually found in processed foods is because it is actually created by the processing. After researchers discovered how bad trans fat is for our bodies, many food manufacturers started processing foods differently so that their foods wouldn't contain any trans fat. However, it still exists in some foods, especially those that are made to last a long time on the shelf. Be sure to check the food label: look for "Trans fat" listed on the Nutrition Facts Panel, and search for "partially hydrogenated" in the ingredients list. Partially hydrogenated oils are the same thing as trans fat.
- Optional Activity: Lead class in a rap or have a student read Trans' Rap:

TRANS' Rap

I'm a heartbreaker and my name is Trans.
 Found in French fries, donuts, cookies; I have lots of fans!
 I'm a liquid oil that's turned into solid fat.
 Hey – junk foods are where I am at.
 So eat me in some crackers or margarine too.
 Causing heart disease and strokes are what I like to do!

- Why is too much saturated and trans fat bad for us? Too much of these fats are bad for our bodies, especially our hearts.
- This is what a healthy artery (or pipes that supply blood to our bodies) looks like. The heart pumps blood through arteries to the rest of the body. Notice how this artery is completely open and there is nothing blocking the blood from going to the rest of the body.
- This is what an unhealthy artery looks like. When you eat too much saturated and trans fat, it will build up on the inside of the artery just like this and makes it a lot harder for the blood to flow to the rest of the body. This means that your heart has to pump a lot harder for the blood to travel to the rest of the body and this makes our hearts tired. We don't want to make our hearts tired because they need to last the rest of our lives.
- One easy way to remember how your heart works is to think of a straw. Let's say you use a straw to drink water, the water is able to quickly go up the straw with no problem, right? Now, think about using a straw to drink a thick milkshake – it takes a little longer for the milkshake to travel through the straw, right? That's how your heart works, when your arteries are clear, your blood flows through your bodies very easily. But when you have clogged arteries, it takes longer for blood to flow through your body and sometimes it may even stop flowing!
- Let's quickly review what we just learned. Fat Cat has 3 relatives: Un, a healthy fat that is found hanging out where? (oils, fish, nuts and avocados), Sat, a heartbreaker, who hangs with the animals (beef, pork chicken, butter, milk and cheese) and Trans, who hangs out with her junk food buddies at the grocery store. Remember that Un is better for you because she helps your heart and you want to be careful around her brothers, Sat and Trans, because they are heart breakers. But don't go crazy eating fat, because if you eat too much fat, you can gain weight too fast.

Show sources of trans fats poster

Show picture of healthy artery or artery model.

Show picture of clogged artery or artery model.

Fat and the Nutrition Label

- When we discussed reading food labels, we learned that fat is a nutrient found on the food label.
- Let's use this label from this container of 1% white milk that you may drink at school.
- The unsaturated fat may or may not be listed on the nutrition facts panel. If the unsaturated fat is not listed, simply subtract the saturated and trans fat from the total fat to determine the grams of unsaturated fat found in the food.
- Now, it's your turn to practice... How much unsaturated fat is found in the carton of 1% white milk? There is 1 gram of unsaturated fat (2.5g total fat – 1.5g saturated fat) in the carton of 1% white milk.

Show milk poster

Wrap-Up

- Today we have talked about different types of fat. Remember: not all fats are created equal. Try to eat less saturated and trans fat (which are found in many fried foods and baked goods like cookies) and eat more of the healthy unsaturated fats found in liquid oils, nuts, and seeds. This will help keep your heart healthy.

Challenge

- To keep your heart healthy, try to eat at least 3 foods that contain the heart helper unsaturated fat this week.

Taste Test Ideas

- Seeds Mix (pumpkin seeds, sunflower seeds, craisins)
- Guacamole with tortilla chips
- Oil based salad dressing with raw veggies
- Sunflower seed butter and WW crackers

Small Group Activities (10-15 minute activities)

1. Cooking Activity: Granola Bites

- Ingredients (for 20-25 balls):
 - 1 cup oatmeal
 - ½ cup sunbutter
 - ½ cup raisins
 - 1/3 cup honey
 - 1 teaspoon vanilla
- Directions:
 - Stir together ingredients in a large bowl, mixing thoroughly to combine.
 - Students can use their hands to roll mixture into balls or can use small cookie scoop. Enjoy!

2. Cooking Activity: Spicy Broccoli Salad

- Ingredients (for 12 taste tests of ¼ cup each):
 - 3 cups chopped broccoli
 - ¼ cup sunflower seeds

- ¼ teaspoon garlic powder
- 1 teaspoon sugar
- juice from half lime
- ¼ teaspoon hot sauce
- 1.5 teaspoon reduced sodium soy sauce
- 1 tablespoon canola oil
- Directions:
 - Measure Broccoli and add to large bowl (can have students chop broccoli if desired).
 - Prepare dressing: Add garlic powder and sugar in a small bowl. Squeeze the juice from ½ lime into bowl (or can use prepared lime juice). Add hot sauce and soy sauce to mixture. Using whisk, add oil to lime mixture and whisk until blended.
 - Pour dressing over chopped broccoli.
 - Add sunflower seeds. Enjoy!

3. Cooking Activity: Creamy Avocado Dip

- Ingredients (for 6-8 students):
 - ½ cup fat free plain Greek yogurt
 - 2 ripe avocados
 - ¼ teaspoon garlic powder
 - 3 tablespoons chopped cilantro
 - 2 tablespoons lime juice
 - ¼ teaspoon cumin
- Directions: Place all ingredients in a large bowl and mix until smooth (can use a blender or potato masher). Serve with tortilla chips or veggies.

Additional Activities

1. Fats: Fact or Fiction? Game

Now, let's see how much you know about fat. It's time to play:

"Fats: Fact or Fiction?"

Suggested Game Directions: Divide the class into 2 teams. Use a coin or other method to determine which team goes first. Ask each team to choose a category (Fabulous Fats, Heartbreakers, or Fat Facts). Next, pick a question from that category (teacher's choice). If the team correctly answers the question, they will receive a point. The team with the most accumulated points wins the game!

Fabulous Fats:

1. Fat improves bone strength. **(FICTION)**
 - Fat does not help your bones become strong; it actually acts like a cushion for our important organs (think of a pillow).
 - Fat also helps you maintain your body temperature (like a warm jacket).
2. The type of fat found in fish is healthy for your heart. **(FACT)**
 - The type of fat found in fish is unsaturated fat that helps your heart stay healthy.

Heartbreakers:

1. Heart attacks are the 7th leading cause of death in the United States. **(FICTION)**
 - Heart attacks are the # 1 leading cause of death in the US for all races and gender (men and women).

- Remember, heart attacks happen when arteries (the pipes that supply blood) around the heart are clogged with fat (Show the 1 pound glob of fat). When this happens, blood is not able to easily pass through the artery (show picture of clogged artery) and eventually blood cannot supply oxygen to the heart (What would happen if you couldn't breathe?). The heart muscle may die because of the lack of oxygen.
2. Eating too much saturated fat and trans fat can hurt your heart. **(FACT)**
- A diet high in saturated fat and trans fat could lead to heart attacks and strokes (Remember our friends Sat and Trans)?

Fat Facts:

1. Takis contain a lot of fat. **(FACT)**
- Did you know that 1 small bag of Takis contains 560 calories (which is a lot of calories, more than you should even eat at a meal!) and 32 grams of fat! That's a lot of fat that could clog up your arteries!
 - Some snack choices may be high in fat, so check the label before you take a bite!
2. Eating foods that have a lot of trans fat helps your heart stay healthy. **(FICTION)**
- Trans fat is a type of unhealthy fat – so be careful eating too many cakes, cookies, and pies because they may break your heart!

2. How much fat is in my snack?

Show students pictures of snack foods and have them guess the amount of fat in each snack. Show students corresponding fat tubes or pats of butter. Note: Each butter pat represents a tsp of fat or ~ 4 grams of fat.

Food Model or Package	Fat (g)	Fat (t)
Baked Potato	0	0
Graham cracker (1 sheet; 4 crackers)	1.5	0.4
Non fat frozen yogurt (1/2 cup)	0	0
McD grilled chx sandwich (no mayo)	4.5	1
Rold Gold Pretzels (1 oz, 8 twists)	1	0.25
Baked Chips - 11 chips (1oz)	1.5	0.4
Granola bar (Nature Valley – 1 bar)	3	0.75
Fruit	0	0
Quarter Pounder with cheese	25	6.25
French Fries (McDonalds medium)	20	5
Poptart – 2 pastries; chocolate fudge	10	2.5
Doughnut – original Krispy Kreme	12	3
Chocolate Chip Cookie (Subway)	10	2.5
Doritos – 1 oz	8	2
Hot Cheetos	11	2.75

Student Handouts

- Compare the Fat in Different Snacks
- Where's the Fat
- Healthy Fats word scramble
- Snack Attack word search
- Fats Notes Page
- **Incentive:** Healthy Snacks bookmark

Parent Handouts

- Today in Nutrition Class: Fats
- Dietary Fats: The Good, The Bad, and the Ugly
- Eat Right: 25 Healthy Snacks

Lesson Roadmap

- Mind Grabber: Heart Smart Energizer
- Discussion of Different Types of Fat
 - Fat Facts or Fiction Game
- Wrap-up and Challenge
- Taste test



Public Health

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