

## SPAGHETTI &amp; LEAN TURKEY MEATBALLS

(60 min; 16 children\*)

## BEHAVIOR GOALS:

1. Reduce intake of high-fat foods.
2. Experience the fun of working together to prepare a tasty recipe.

## LEARNING OBJECTIVES:

1. Children will identify the amount of fat in popular packaged and fast foods.
2. Children will discover the link between staying healthy and reducing fat intake.

TOTAL TIME: 1 hour (without advanced prep)

Time	Activity
5 minutes	Children enter room, make themselves a name tag if needed, and are directed to sit at one of the tables. Leader explains that this is where learning about nutrition and having fun preparing new foods. Review classroom rules. Administer Pre-test.
15 minutes	Explain and Do "How Much Fat" Activity. Share & discuss findings.
5 minutes	Discuss benefits of reducing intake of high-fat foods. Do Straw Activity.
5 minutes	Review cooking rules & Review recipe.
15 minutes	Prepare Spaghetti and Lean Turkey Meatballs.
10minutes	Taste Spaghetti and Lean Meatballs, Reflect and Share.
5 minutes	Clean up work area. Administer Post-test.

## BACKGROUND INFORMATION FOR INSTRUCTOR:

It is important to be aware of what kinds of meats you eat and how much you eat. Many low fat food alternatives are now available. For example, lean, skinless, turkey and chicken have much less fat than beef and other cuts of red meat. These healthier alternatives are tasty and can be used in a variety of dishes. They can be stir-fried, ground, sliced, baked, broiled or boiled and added to baked beans, served on a whole wheat bread, used as a breakfast meat instead of bacon or sliced on top of pizza, used in low fat sauces with pasta and in a variety of other ways where red meat would normally be used. Many people enjoy the taste and are aware that eating less fat and foods that have fat in them is better for health.

All fat is not the same. Unsaturated fat is a healthy fat, while saturated and trans fats are unhealthy fats. Unsaturated fats can be found in foods like fish, avocado, olives, nuts, seeds and peanut butter. These protein sources should be promoted. Saturated fat can be found in foods like beef, pork, chicken skin, whole milk, cheese, butter and ice cream. At room temperature, unsaturated fats are liquid (e.g. oils) whereas saturated fats are solid (e.g. butter). Diets that are high in saturated and trans fats can lead to high cholesterol levels, high blood pressure, clogged

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\*Can be adapted to accommodate 10-24 children by increasing or decreasing the number of leaders and supplies.

arteries, and cardiovascular disease. A healthy diet consists of less than 30% of calories coming from fat and less than 10% of calories coming from saturated fat.

The labels on food packages can be an easy way to find out how much and what kind of fat is in a food. Labels provide a table that tells how many grams of fat is in a serving (note 5 grams of fat approximates 1 teaspoon), and we need to stay below 30% of energy from fat. The label will also list "saturated" fat and "unsaturated" fat. Aim for more unsaturated fats and less saturated. The Ingredient List provides additional information.

This Ingredient List is found on almost all products packaged and sold in stores. Ingredients are listed in descending order by weight. The ingredient that weighs the most is listed first and the ingredient that weighs the least is listed last. The Product Name can give you a quick idea of the content but refer to the ingredient list for more information. Look for the word "Lean" in front of the product name. This tells us it has 10% or less fat.

#### EQUIPMENT & SUPPLIES:

##### "How Much Fat" Activity

- poster with "Ground Rules"
- poster of MyPyramid
- 10 -15 food cards (8 1/2 x 11"), as described in "Advanced Preparations."
- 16 teaspoons (4 per table of 4 children)
- 8 paper plates (2 per table of 4 children)
- 8 small bowls each containing 15 teaspoons of shortening (2 bowls per table of 4 children)
- 16 plastic straws (4 per table of 4 children)

##### Cooking

- 1 wok
- 1 extension cord
- 1 measuring cup
- 16 cutting boards
- 16 plastic knives
- 1 table cloth
- 1 sharp knife for cutting (for leader)
- 1 large spoon for stir frying & serving

##### Eating

- 16 small bowls
- 16 plastic forks
- 16 paper napkins

##### Clean-up

- 4 sponges for cleaning cutting boards (1 sponge per table of 4 children)
- 16 hand-wipes for cleaning hands
- 1 trash bag per 16 children

##### Spaghetti and Lean Turkey Meatballs Ingredients

- 3 teaspoons olive oil
- 1-1/2 cup of sliced fresh mushrooms

- ¾ cup chopped green onions
- ¼ yellow bell pepper, seeded and diced
- ¼ red bell pepper, seeded and diced
- 1 ½ teaspoon of dried basil
- 1 ½ teaspoon of dried thyme
- 1 ½ teaspoon of dried oregano
- 4 cups cooked whole wheat spaghetti
- ¾ cup low fat parmesan cheese
- 2 cups of precooked lean turkey meatballs
- (2) 16 ounce bottles of spaghetti sauce

#### Pre- and Post-tests

- copies of Pre- and Post-tests (one each per child)
- 1 sharpened pencil per child
- 1 pencil sharpener

#### PERSONNEL: 2 adults or more

##### 1. Adult Leader (1)

- Teaches nutrition lesson, leads learning activities & administers Pre- & Post-tests.
- Facilitates discussion, reviews kitchen rules and classroom rules.
- Leads recipe preparation.
- Introduces the recipe.
- Describes the nutritional benefits of foods used in the recipe.
- Gives instructions for preparing the recipe.
- Oversees cooking and serving of recipe.

##### 2. Assistant (2 or more)

- Makes sure children practice kitchen safety rules.
- Helps children measure and combine recipe mixture.
- Oversees children opening cans, cutting vegetables.
- Passes out bowls and other Nutrition Lesson Supplies and helps serve food.
- Encourages and helps with clean up.
- Asks children if they liked the recipe and if they would make it again.
- Helps to pass out and collect Pre- & Post-tests.
- Does Advanced Preparations for the lesson.

#### ADVANCED PREPARATIONS: 60 minutes

##### Ground Rules

- Make poster with "Ground Rules"

##### "How Much Fat" Learning Activity (15 minutes)

- Hang MyPyramid Poster so that it is visible for all children to see
- Prepare the following written food cards using a full 8 1/2 x 11" sheet of paper (this larger size allows the children to be able to read the words on it from a distance). On one side write the name of the food item & on the other side, write the number of teaspoons of fat a serving of that food contains as shown below:
  - McDonald's Big Mac has 9 teaspoons of fat,

- 1 Breaded chicken fillet sandwich with mayo has 7 ½ teaspoons of fat,
- 2 pieces Kentucky Fried Chicken Original Recipe has 6 teaspoons of fat,
- 1 Taco Bell beef burrito has 5 teaspoons of fat, sandwich,
- 6 Chicken Nuggets has 4 ½ teaspoons of fat,
- 1 Fish fillet with cheese & tarter sauce has 4 teaspoons of fat,
- 1 slice pepperoni pizza (1/6 of 16" pizza) has 3 teaspoons of fat,
- 1-8-ounce glass whole milk has 2 teaspoons of fat,
- 1-8-ounce reduced-fat milk (2%) has 1 teaspoon of fat,
- ½ cup boiled pinto beans has less than ¼ teaspoon of fat.
- Ideally there should be 1 table per 4 children. Each table should have
  - 1 food card
  - 1 paper plate
  - 2 bowls of shortening (1 bowl for each pair of children working together).

#### Cooking (45 minutes)

- Pre-cook pasta
- Wash and display vegetables
- Write recipe on poster board
- Ideally there should be 4 tables with 4 children per table. Set tables with:
  - 1 table cloth
  - 4 cutting boards
  - 4 knives
  - 4 paper plates
  - 4 napkins
  - 4 hand wipes
  - 4 forks

#### ACTIVITY DIRECTIONS:

1. The Activity Leader should administer the Pre-test after children enter the room and are seated. As the Assistant passes out the questions, the Leader will instruct children to answer the two questions the best they can. Tell children it is ok if they don't know the answer. The information will be covered in today's lesson, and they will have a second chance to answer the questions at the end of the lesson. The children may need help reading the questions.
2. Since this is the first meeting of these children in a Nutrition & Food Preparation session, begin by establishing Rules & Expectations. The Activity leader should have Rules & Expectations written on poster board and visible for children to see. Allow children to add rules. Ferret out the following:
  - Quiet hands
  - Listen while others are talking
  - Respect others
  - Clean work space
  - Have fun
3. Review the objectives of the day. Children will work in pairs to discover how much fat is in some popular foods. They will learn the benefits of reducing the fat they eat. They will make a recipe using low fat turkey meat.

## 4. Discussion and Activity - What is fat and where is it found?

## A. Show children a can of shortening.

Ask: What it is? Where have they seen it? How it is used?

Many children may know that shortening (sometimes called grease) is used in frying and baking. Ferret out that shortening is a fat and that people who eat large amounts of fat tend to have more heart disease and certain types of cancer than those that don't.

Discuss the various kinds of fats pointing out that it's best to use a small amount of liquid oil instead of solid fat like butter, margarine, lard, shortening or bacon grease.

Ask: What foods have fat in them?

Ferret out: Some foods with fat come from plant sources such as nuts, seeds, corn, olives, peas, peanuts contain. Some foods with fat from animal sources such as beef, pork, whole milk, cheese, bacon, butter, ice cream and most junk foods like potato chips, French fries, and candy bars..

Ask: Which foods have solid fats?

Ferret out: Fats from the animal sources are usually solid at room temperature and are called saturated fats. These fats are unhealthy.

The fat around a steak stays solid when left out at room temperature for example.

Ask: Which foods have liquid fats (oil)?

Fats that come from the plant sources are usually liquid at room temperature and are called unsaturated fats. These fats are healthy when eaten in moderation.

Have children ferret out the following as examples of vegetable oils that stay liquid at room temperature: olive oil, vegetable oil, corn oil.

## B. Hold up Food Cards

Have children read food cards and raise their hands if it is a food they like and eat sometimes or often. Do not show children the back of the cards. After each food card is read the Assistant should place it with the word facing up on the tables where the children will later work in pairs. Tell children to NOT turn the cards over.

Explain that it is important to be aware of the kinds of foods you eat as well as how much you eat. Some foods contain more fat than others. We will do an activity that will help us see how much fat is in some of the foods we like to eat.

## C. Explain and do the "How Much Fat" Learning Activity

- Divide children in groups of pairs and have them sit side-by-side at the tables stationed with shortening, teaspoons and a food card with the written name of the food showing.
- Instruct children to guess and tell each other how many teaspoons of fat they think a serving of their food item contains.
- After each partner makes a guess, turn the food card over.
- Using measuring teaspoons and a container of shortening have each group measure out the teaspoons of fat in that food, and put on a paper plate. See advanced preparations for the suggested list of popular food items to put on Food Cards.
- Have groups line up with their plates in order from foods with the lowest amount of fat to foods with the highest amount of fat. Have each group share their findings.

## 5. What are the benefits of reducing fat in our diet?

Explain and do the Straw Activity

- Give each child a straw and ask them to blow towards the shortening on their plates. They should be able to blow out of the straws with no effort and may be able to shift the shortening in some spots.
- Now, have children stick one end of their straw into the shortening, making sure that some of the shortening is inside their straw. Let them blow again towards their plates. Although children will be able to eventually blow through the straw, they should notice it took more effort.
- Have children compare the amounts of energy it took to blow air through the straw. It took less effort to blow through a straw that is not clogged. Explain that if we compare a straw to our heart's arteries, it is easier for the heart to pump oxygen, blood, and nutrients through the body if the arteries are not clogged by fat. Saturated fats can lead to clogged arteries, strokes, high blood pressure and heart attacks. Unsaturated fats promote a healthy heart. Our diets should not contain more than 10% saturated fat.
- Reducing fat in our diet reduces the amount of work our hearts have to do to keep us alive, reduces our risk for certain diseases and helps us maintain a healthy weight.

## 6. Let's Cook!

### A. Cooking Rules

- Review the importance of hand washing before preparing food to avoid contaminating food with germs found on hands.
- Explain that germs can make us sick.
- Review that hands should be washed before preparing food and after using the bathroom, blowing their nose, sneezing, or coughing into their hands and touching animals, garbage or raw meat.
- Ferret out the following Cooking Rules:
  - Wash hands before handling food
  - No playing with knives or food
  - Garbage goes in trash
  - Clean up our areas

### B. Prepare Whole Wheat Spaghetti and Lean Turkey Meatballs.

- Show children the foods items being used for the recipe and ask them the name of each food. Have children raise their hands if they have ever cooked or eaten the food before. Ask: Which food group each belongs to. Have them refer to the MyPyramid Poster to ferret out the following answers:
  - Green onions & mushrooms are vegetables (note - no fat)
  - Whole Wheat Spaghetti is a grain (note - little or no fat)
  - Lean Turkey Meatballs is a meat (note - low in fat)
- Assistant should rotate between tables to make sure vegetables are distributed to all children. Be sure all children get an opportunity to practice cutting a piece of green onion, bell pepper, and mushroom.
- Have Assistant collect cut-up vegetables from each table and add to preheated wok. Stir-fry vegetables, add spaghetti sauce, pre-cooked meatballs and precooked spaghetti. Stir-fry until heated. Simmer for 10 minutes. While food is simmering have children clean their areas and prepare for serving.

NOTE: This recipe can be made using a microwave or a stove top if a wok or electric skillet is not available. Follow dealers recommended timetables to make recipe using microwave.

C. Eat & Reflect. Have children discuss the recipe while eating.

Ask: Why is this a healthy meal?

It is low fat and it contains a variety of foods from the food groups.

Ask: How could you prepare this recipe if you don't have a wok at home.

Ferret out: Use a skillet or frying pan on stovetop; electric fry pan; griddle; microwave oven. If time permits, discuss safety rules.

D. Clean Up Work Area & Share

Ask: Did you enjoy the taste of the recipe.

Discuss why or why not and ask if they think they would/could prepare the meal at home with/without supervision. Help children think of ways they can eat less fat.

Ferret out the following:

- Use low-fat or nonfat milk instead of whole milk,
- Have beans and lentils in place of meat, poultry and fish, when cooking,
- Eat baked or barbecued meats instead of fried meats,
- Cut the fat off meat and take the skin off chicken or turkey,
- Cook at home as often as possible,
- Limit visits to fast food restaurants to once a week or less,
- Choose regular size servings instead of super sizes.

E. Administer the Post-test.

The Leader should tell children that they will get to answer the same questions again that they answered at the beginning of the lesson. While the Assistant passes out the questions, tell children to see if they have the same or different answers based on what they have learned today. Children should quickly answer the questions. The Assistant may need to help with reading; and should collect questions when everyone is done.

REFERENCES:

- USDA, Inside the Pyramid, What is a Healthy Diet?, MyPyramid.gov.
- Dietary Guidelines for Americans, 2005.
- Youth Activities, TeamNutrition.usda.gov.

EVALUATION: To be completed by activity leaders following delivery of exercise

	LOW FAT CHOICES / WHOLE WHEAT SPAGHETTI AND LEAN TURKEY MEATBALLS	
	Rating*	Specific recommendations to improve
Timing		
Equipment / supplies		
Personnel/staffing		
Lesson Instructions:		
Transitions		
Discussion questions		
Adequacy of background info		
General response of <u>children</u> to discussion		
General response of <u>children</u> to food		
General response of <u>adult</u> leaders to discussion		
General response of <u>adult</u> leaders to hands on component		

\*Rating of 1 - poor to 5 - excellent.

Other comments:

\_\_\_\_\_ Date \_\_\_\_\_ Name (Optional)

PRE-TEST QUESTIONS

1. In order to maintain our health we should
    - a) Eat as much ice cream and candy as we can everyday
    - b) Reduce the amount of saturated (solid) fat that we eat
    - c) Increase the amount of saturated (solid) fat that we eat
  
  2. One way to reduce the amount of fat we eat is by
    - a) Eating lots of ice cream
    - b) Drinking low-fat milk instead of whole milk
    - c) Eat fried chicken instead of barbecued chicken
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POST-TEST QUESTIONS

1. In order to maintain our health we should
  - a) Eat as much ice cream and candy as we can everyday
  - b) Reduce the amount of saturated (solid) fat that we eat
  - c) Increase the amount of saturated (solid) fat that we eat
  
2. One way to reduce the amount of fat we eat is by
  - a) Eating lots of ice cream
  - b) Drinking low-fat milk instead of whole milk
  - c) Eat fried chicken instead of barbecued chicken