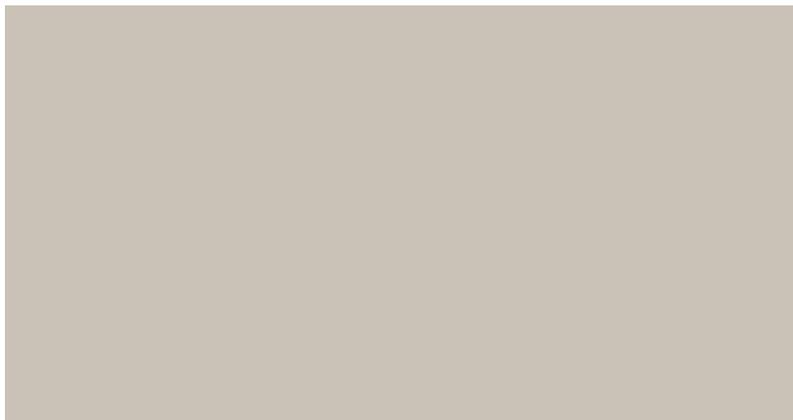


# SOUTHERN *Remedy*

THE UNIVERSITY OF MISSISSIPPI MEDICAL CENTER

**MPB** Mississippi  
Public  
Broadcasting





## Lesson Plans on Obesity Prevention

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## Introduction

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Childhood obesity has been on the rise to such an extent that it has become a major public health concern. Childhood obesity occurs when excess body fat affects a child's health and well-being. Obesity is diagnosed using Body Mass Index (BMI) which is a formula based upon your height and weight. Obesity usually develops due to unhealthy habits and it physically, mentally and emotionally affects the children who are overweight.

Obesity is the root of many serious health problems. Mississippi's problem is particularly serious with childhood obesity rates soaring above the rest of the nation. Mississippi ranks number one in the nation for childhood obesity. Proper nutrition and physical health are essential messages that must get to the children living in the state. Mississippi's children are more susceptible to many of the risks and consequences of obesity such as heart disease, Type 2 diabetes, depression and negative self image, compared to other states. (Center for Mississippi Health Policy). In addition to the health problems, childhood obesity has long term implications on how young children learn and achieve academically. (2003 National Survey of Children's Health).

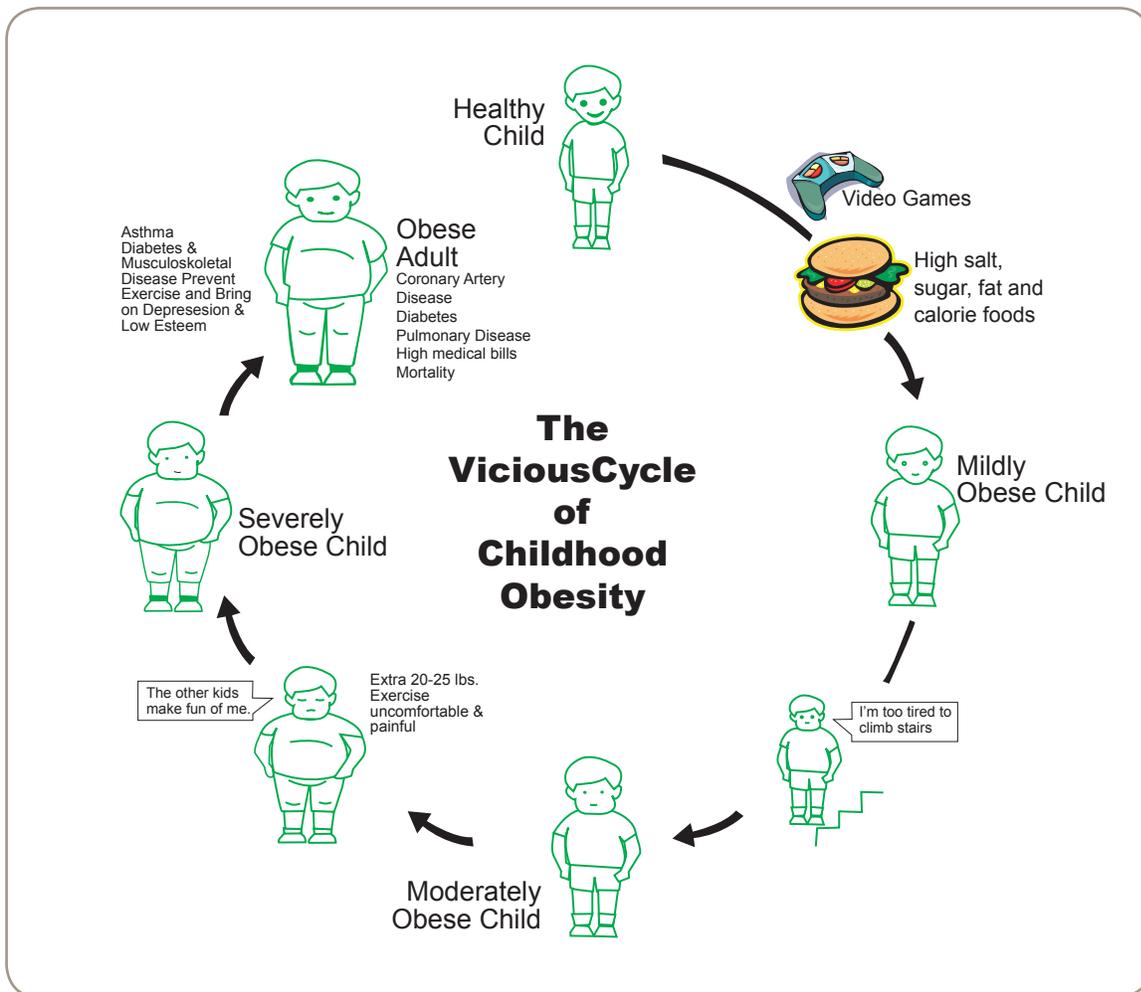
### **We all need to work at helping children make better health decisions.**

The following lesson guides are designed to open up discussion about healthy eating and exercise and identify healthy habits that can be substituted for not so healthy habits. The plans deal with image, sweetened drinks, food groups, and serving sizes. The activities are basic and can be adapted by each teacher for the appropriate grade level.



## About Mississippi's Big Problem

**Southern Remedy** is a MPB special radio show that also produces television specials on health. Currently airing each Wednesday, Dr. Rick deShazo answers your medical questions on MPB Think Radio from 9am – 10am. Also, catch the quarterly specials that address Mississippi's obesity epidemic and how we can save our state.



# Information On Obesity

## Obesity and Dyslipidemia

Obesity has a negative effect on lipid (fat) levels in the blood, which often lead to the development of a condition known as **dyslipidemia**. **Dyslipidemia**, a primary risk factor for coronary artery disease, occurs when LDL cholesterol (bad cholesterol) and triglyceride levels are high and HDL cholesterol (good cholesterol) is low. This abnormal shift in lipid levels is often caused by weight gain. Losing weight, conversely, has an opposite effect. Weight loss of about 20 pounds has been shown to:

- Reduce LDL levels by 15 percent.
- Reduce triglyceride levels by 30 percent.
- Increase HDL by eight percent.
- Reduce total cholesterol levels by 10 percent.

## Childhood Obesity

Obesity in childhood continues to grow in prevalence among adolescents in the United States. In some states, obesity is found in nearly forty percent of children. It is estimated that one-third of children born in 2000 will develop obesity-related diabetes, half of which will be in the Latino and African American communities. Obesity is a risk factor for Type 2 Diabetes, Kidney Failure, Blindness, Heart Attack or Stroke.

**Childhood obesity** causes liver, lung, heart and musculoskeletal complications as well as psychological ones. Grass root efforts at changing urban planning, legislation, and school practices need to be employed to help stem the tide of obesity. Lifestyle change is the most effective treatment, but the hardest to implement. As a result of higher childhood obesity rates, more and more adolescents are subjecting themselves to gastric banding.

## Disorders Related to Obesity

### Type 2 Diabetes

The most common form of Type 2 Diabetes, occurs when the pancreas can no longer produce adequate insulin to keep the blood glucose (sugar) at normal levels. High blood glucose levels are associated with damage to the lining of the blood vessels especially in the kidneys, eyes, heart and brain. Type 2 diabetes is seen increasingly in children because of the childhood obesity epidemic.

### Sleep Apnea

Sleep apnea is a disorder characterized by a reduction or pause of breathing (airflow) during sleep. It is often associated with crowding of the air way by excess fat in obesity. It is common among adults but rare among children. Although a diagnosis of sleep apnea often will be suspected on the basis of a person's medical history, there are several tests that can be used to confirm the diagnosis. The treatment of sleep apnea may be either surgical or nonsurgical.

## Osteoarthritis

Obesity is associated with osteoarthritis, especially knee osteoarthritis. Osteoarthritis is a type of arthritis that is caused by the breakdown and eventual loss of the cartilage of one or more joints. Cartilage is a protein substance that serves as a “cushion” between the bones of the joints. Osteoarthritis is also known as degenerative arthritis. Among the over 100 different types of arthritis conditions, osteoarthritis is the most common, affecting over 20 million people in the United States. Osteoarthritis occurs more frequently as we age. Before age 45, osteoarthritis occurs more frequently in males. After 55 years of age, it occurs more frequently in females. In the United States, all races appear equally affected. A higher incidence of osteoarthritis exists in the Japanese population, while South-African blacks, East Indians, and Southern Chinese have lower rates.

## Hypertension

Blood pressure is the force of blood pushing against the walls of the arteries as the heart pumps out blood. **Hypertension**, or high blood pressure, greatly raises the risk of heart attack, stroke or kidney failure. Being overweight or obese increases the risk of developing high blood pressure. In fact, blood pressure rises as body weight increases. Losing even 10 pounds can lower blood pressure—and losing weight has the biggest effect on those who are overweight and already have hypertension.



Photo by: yuzhno sakhlinsk

# Perception, Culture and Childhood Obesity

## Objectives

Students will:

1. Learn how culture influences body perception
2. Examine prejudices toward obese people; and
3. Examine their own feelings about their bodies

## Materials

- Magazines, brochures, books, and other text resources
- Computer with internet access

## Anticipatory Set

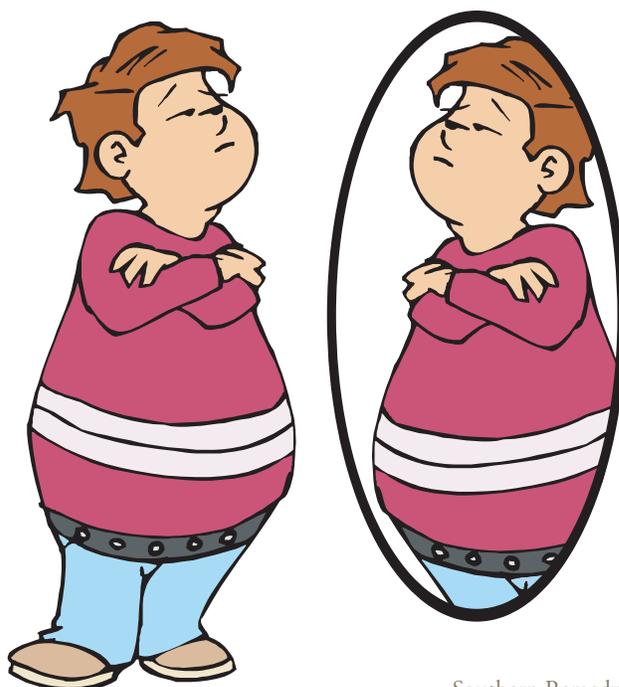
### Procedures

1. Begin the lesson by showing students pictures of three different individuals with varying body images.
2. Ask students to look at the pictures of the three body images and form opinions/reactions to those images. Students should write opinions/reactions on paper.
3. Teacher will then hold an open discussion regarding the students' opinions to the pictures. Students should then share their reactions to those pictures on a voluntary basis.
4. The teacher should tally the responses while students are presenting their reactions. The purpose is to gauge attitudes toward overweight and thin people.
5. After students have given reactions, present the tally data to the students. Typically, the thin individual will receive the most positive responses, while the heaviest individuals receive the most negative responses.

## Discuss how students came to their conclusions.

### Students' comments may include the following:

- He/she is heavy, therefore most likely unhealthy
- People that are heavier don't make wise nutritional decisions and constantly eat foods that are bad for them.
- People that are overweight are unattractive
- He/she must never workout, or lives a very inactive lifestyle



## Group Activity

1. Divide students into three groups. Ask each group to consider how society influences our perceptions of overweight people. Students should be encouraged to consider the various ways we receive information, from family, friends, television, radio, literature, etc. Have each group to prepare a 3 – 5 minute oral presentation that focuses on the following:
  - The groups ideas about how various factors influence our perception of overweight people, which factors have the most influence and why.
  - Conduct a web and text search of research based factors that influence society's perceptions of overweight people. Various web and text materials may be used to obtain this information.
  - A conclusion about the group's original ideas: Were they supported by research, or did they change? Students should explain how and why any of their ideas changed.
  - Have each group to share its oral presentation to the class. Do the groups agree on how society influences our perception of overweight people? Do the groups believe that one factor is more significant than others? If so, which one? Why do the groups think that factor is so important?
  - Have students think about other prejudices which prevent opportunities to get to know others and are hurtful. For instance, race, financial status, and religion.
  - Conclude the lesson by asking students whether their opinions in the initial activity changed as a result of their research. What information has changed their perceptions of overweight people?

## Questions for Research and Discussion

1. Some health risks are associated with being overweight. Research and explain four (4) such risks.
2. We usually think of fat as negative, but fat serves many purposes in the human body. Why do our bodies contain fat? What happens if a person's body fat is too low?
3. What is the difference in being overweight and being obese?
4. Is obesity different from other forms of discrimination?
5. How does it feel to be called fat or skinny or short? Why do people call other people names?

## Suggestions for parents to help a child face fat prejudice

1. Be supportive when your child comes home with stories of school bullies. Listen to what they are saying and talk over their feelings. Ignoring feelings will only add to their stress about teasing.
2. Arm your child with wisdom by talking with him about why other kids might be picking on him.
3. Take a closer look at their diet. Many times children are teased at lunch time especially if they are eating things that are not good for them.
4. Remind your child that everyone comes in a different size and shape. Even adults are big and small and your child is not alone.
5. Prepare for the future by reminding your child to be kind to other children.
6. If your child has a weight problem, work with your physician, school nurse and other resources to increase opportunities for exercise, learning portion control, avoiding sugar drinks and high calorie processed foods.

# Sugar Content in Popular Drinks

## Objectives

Students will:

1. Learn how much sugar is contained in popular drinks.
2. Examine the effects of high sugar content on weight.
3. Learn how to read labels.
4. Determine ways to drink fewer sugar sweetened beverages.

## Materials

- 1 full bottle of Coke, Mountain Dew, Gator Aid, and fruit juice, diet drink, unsweetened tea (with grades 3-6 use fewer drinks, like 3-4 drinks instead of 6)
  - Several boxes of sugar cubes
  - One tray to put bottles on
- Source: [www.sugarstacks.com](http://www.sugarstacks.com)



## Anticipatory Set

### Procedures

1. Begin lesson by showing students an example of a label on a soft drink.
2. Show students how many names for sugar are listed on the label as sugar, such as high fructose corn syrup and sucrose.
3. Explain how to read the label, including the ingredients, calories and % of daily requirements.
4. Compare the label on other items like water, flavored water, green beans and a candy bar.
5. Have children draw conclusions about which labels represent healthier food choices.

## Group Activity

1. Begin by calculating how much sugar is recommended per day based upon age of student. For instance the recommend amount at age 10 equals 60 grams for boys and 50 grams for girls. There are 4.2 grams in a teaspoon of sugar. Divide 60g by 4.2 to determine teaspoons. The answer is 14.3 teaspoons for boys and 11.9 teaspoons for girls.
2. Make a stack of sugar cubes with 14 cubes for boys and 12 cubes for girls.
3. Now continue by reading the label on each bottle of beverage of soda.
4. Record the list of sweeteners including sugar and high fructose corn syrup.
5. Measure the amount of sugar in each beverage based on teaspoons. Remember, 1 teaspoon equals 4.2 grams. So if 20 oz of coke has 65 grams of sugar, then there are 15.5 teaspoons of sugar in the beverage. Stack them up in front of the coke bottle. How does this compare to daily allotment of sugar?
6. Compare the beverages based on sugar content. Which drinks have the greatest amount of sugar?

7. What happens when you drink beverage with too much sugar? Besides gaining weight what happens? Discuss blood sugar and the risk of diabetes. Also discuss that other foods also have sugars in them. So drinking a sugary drink and eating some sweetened foods can put you way over the daily recommended amount and make you gain weight.

### Questions for Research and Discussion

After students have reacted to the amount of sugar in the beverages ask:

1. How many sodas do you drink each day?
2. How healthy is this much sugar for you to drink every day?
3. What can you drink instead of high sugar beverages?
4. If you knew that drinking these drinks increased the risk that you would be overweight or obese, would you be more likely or less likely to drink fewer “cokes?”
5. Seeing how much sugar is in these drinks, can you understand why they increase your chance of getting diabetes?



### Information Related to Sweetened Drinks

Restrict soda and sugar-sweetened sports and fruit drinks.

- Instead of soda, drink water and 3 to 4 servings of fat free/skim or 1% milk
- The American Academy of Pediatrics recommends children have only 4 to 6 ounces of 100% juice a day.
- The American Dietetic Association recommends added sugars should not exceed 20% of total calories for the day.
- The World Health Organization recommends no more than 11% of daily calories from sugar.

#### Sugar limits per day

	Age 6	Age 10	Age 16
Boys	60 gm	60 gm	80 gm
Girls	40 gm	50 gm	60 gm

- High intake of sugar-sweetened drinks is associated with overweight, obesity and tooth decay.
- Soda and juice replace milk in the diet, and lead to a decreased intake of calcium.
- A decreased intake of calcium will result in poor bone growth and development in children, and can result in osteoporosis in adults.
- Regular soda and sweetened drinks are usually a source of empty calories—a high dose of sugar with no nutrients.
- Switching from whole milk to low fat milk or skim milk will significantly reduce saturated fat, total fat and calories.
- Drinking plenty of water helps keep your body running strong.

# Food Groups and Serving Sizes

## Objectives

Students will:

1. Learn about the five major food groups.
2. Identify foods that belong in each food group.
3. Determine how food groups provide the proper balance for healthy eating.
4. Learn how to measure food for correct portion size.

## Materials

- A poster.
- Markers.
- Photos of food from magazines.
- 3 sets of measuring cups
- 3 Boxes of oatmeal
- 3 small cartons of milk
- 3 stalks of broccoli (or any raw, easy to handle veggie)
- 3 small apples
- 3 boiled eggs
- 3 small jars of peanut butter

Source: See [www.Mypyramid.gov](http://www.Mypyramid.gov)



## Anticipatory Set

### Procedures

There are five basic food groups. These food groups each have different importance to healthy eating. Some of the food groups build the body and bones while others provide energy for the body to operate. Regardless of the function provided to the body, each of the food groups is necessary to healthy living. The quantity of food eaten from each group varies. The body needs less of some of the groups and more of others.

The five groups are **grains, vegetables, fruits, milk or meat and beans**. **Grains** are things like oatmeal, bread, pasta and rice. Beans are grouped with meat because of their high protein content. You only need 6 ounces of grain a day. One slice of bread equals 1 ounce of grain. With cereal, 1 cup equals 1 ounce of grain while  $\frac{1}{2}$  cup of pasta or oatmeal equals 1 ounce of grain. You can mix and match grains until you reach the 6 ounces needed daily.

**Fruit and Vegetables** are very good for the body. You should eat  $2\frac{1}{2}$  cups of vegetables a day. The vegetables should include cooked and raw vegetables. You and you should eat  $1\frac{1}{2}$  cups of fruit a day. Measuring fruit means judging whether it's a small fruit or not. A small piece of fruit like an orange is equal to  $\frac{1}{2}$  cup of fruit. You can mix and match fruits and vegetables to get your complete daily allowance of each.

**Milk** is its own food group. This is where you get calcium and other nutrients needed to build strong bones and teeth. The milk group includes drinking milk, cheese, cottage cheese, and yogurt. It's recommended that you have 3 cups of milk or milk products. One cup equals 1 cup of milk or yogurt or 2 slices of cheddar cheese or 3 slices of American cheese.

**Meat (and beans)** is the fifth and final food group. Your body only needs 5 ounces of meat or beans a day. An egg equals 1 ounce of this food group as does one tablespoon of peanut butter or  $\frac{1}{4}$  cup of beans or 1 slice of lunchmeat.

So that you will better understand the five basic food groups, Make a poster of these food groups.

1. Begin by showing pictures of items in each of the five basic food groups. Talk about each food group as you present the picture.
2. Draw a large triangle, like a pyramid with its base on the bottom of the page.
3. Divide the triangle up into five segments.
4. Label the first segment grains. Label the next segment vegetables and the next one, fruits. The fourth segment is milk and the last segment is meat and beans.
5. Now using the pictures of foods from magazines put the correct food on its place on the food pyramid.

### Group Activity

1. Divide the students into three groups. Ask each group to think about serving sizes.
2. Using the measuring cups, ask the students to measure out the proper serving size for a serving of oatmeal, according to the box. Does this look like the right amount of grain to eat for one meal? How much more grain can you eat in one day?
3. Now take the broccoli and break it into pieces. How much broccoli is one serving? Put it in the measuring cup. How many servings of vegetables can you eat besides this serving of broccoli?
4. Now look at your apple. Would you say it is a large or small apple? If it is a small apple how much fruit is it equivalent to? How many of these apples could you eat a day?
5. Take the carton of milk. How many ounces of milk are in the carton? How many ounces are in one cup of milk? Is the carton a full serving of milk? How many of these should you have a day?
6. What foods on the table count as meat on the pyramid? Lunch meat, egg and peanut butter. Which one do you like the best? How much do you get to eat from the meat group in a day? How much peanut butter is equal to 1 egg or 1 slice of lunch meat?



## Questions for Research and Discussion

1. What are the five basic food groups?
2. Why are the five basic food groups important?
3. Which food group do you need less of each day than the others?
4. How much milk should you drink (or eat as yogurt and cottage cheese) a day?
5. What are some of the different forms of grains?
6. Eggs and peanut butter are included in which food group?



# Identifying Fats in Foods (1)

## Objectives

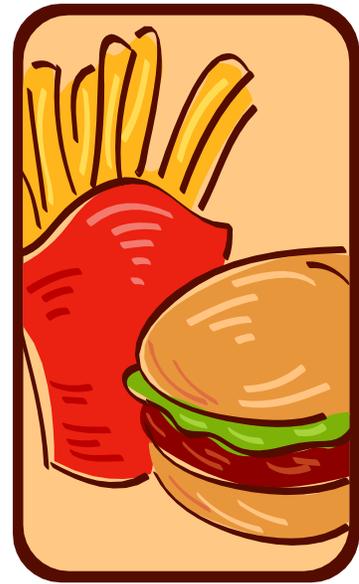
Students will:

1. Learn how fats are distributed in the blood.
2. Learn how to account for fat in the foods they eat.
3. Examine foods for fat content.

## Materials

- Magazines, brochures, books, and other text resources
- Computer with internet access  
[www.nal.usda.gov/fnic/foodcomp/search/index.html](http://www.nal.usda.gov/fnic/foodcomp/search/index.html)
- Nutrition charts and menus from a least three fast food restaurants
- Transparency
- 2 Mason jars
- Water
- Red food coloring
- Paper, pens, markers and poster board
- Softened margarine

*Source: Beacon Lesson Library*



## Anticipatory Set

### Preparations

1. Be familiar with health-related diseases such as arteriosclerosis and heart disease.
2. Procure menus and nutrition charts from several fast food restaurants. These are usually available from the cashier at no charge.
3. Make a transparency of chart with fat grams per day
4. Prepare mason jars with red water ahead of time.
5. List the following objectives on the board: a) The student understands the impact of a high fat diet on future quality of life; b) The student understands his personal responsibility in making healthy choices regarding diet.

## Procedures

1. Begin the lesson by asking students to list several unhealthy foods on the overhead. Discuss why they are unhealthy (fat, sugar and cholesterol content) (10 minutes)
2. Ask students to tell you their favorite fast food restaurants. List the three favorites on the board. (Be sure you have nutrition guides for these). Ask students if what they eat in these restaurants is healthy. Why? Why not?

3. Discuss health risk associated with diets that are high in fat and cholesterol (heart attack, diabetes, arteriosclerosis, and stroke) and the accompanying impact on quality of life.
4. Demonstrate the effect that saturated fat has on a person's arteries by performing the following activity:

- a. Fill two mason jars with water and add enough red food coloring to make the water in each jar resemble blood.
- b. Have a student who ate a fast food meal the day before describe what he ate. As the student tells you what he ate, add the softened margarine to one of the jars. Tell the students that the softened margarine contains saturated fat, similar to what the student described.

- c. Shake the jar well.
- d. Pour the colored water out of each jar.
- e. Show the students the insides of the jars.

- f. Explain that saturated fats coat the walls of the arteries much like the margarine coated the sides of the jar. This builds up over time, eventually restricting blood flow in these arteries. This is arteriosclerosis, hardening of the arteries.



### Group Activity

5. Divide students into three or four groups. Let each group choose from one of the following assignments;
  - a. You are a group of nutritionists and advertising agents. You have been hired by a large fast food restaurant chain to introduce four low fat items to their menu. It is your responsibility to create the advertising campaign for these foods. Draw and describe these items. Be sure to include TV ads and posters. What will you say to convince people that they should eat the items you created?
  - b. You are a team of archaeologists from a super health-conscious society in the year 2500. Your team has just uncovered the ruins of a fast food restaurant. Describe what you find and what it tells you about the health of American's in the early 2000s. Explain how different your diet is now and they society has changed its views about fast food restaurants.
6. Allow students about 45 minutes to decide on and complete their project. Tell students that they will present their projects to the class the next day. (Presentation time, approximately 30 minutes, depending on how many groups you have.)

## Questions for Research and Discussion

4. Some health risks are associated with being overweight. Research and explain four (4) such risks.
5. What are the trends in fast food restaurants today? Will they adapt to healthy eating or decline?
6. How much fat does a typical fast food meal of hamburger and fries actually have?

## Suggestions for parents to help their children eat less fat.

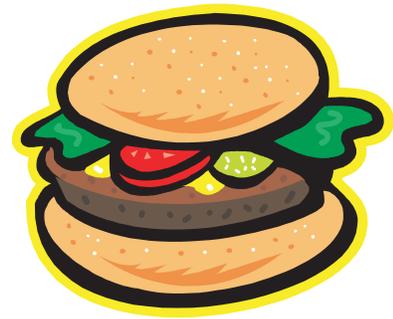
1. Become aware of the fat in common foods and fast foods.
2. Cook more meals at home from scratch.
3. Read labels routinely to buy products with less fat content.
4. Encourage your child to eat snacks and meals that are lower in fat and sugar.
5. Be aware that many commercial “low fat” foods can be high in carbohydrates and calories.

## Identifying Fats in Foods (2)

### Objectives

Students will:

1. Learn how fats are distributed in the blood.
2. Learn how to account for fat in the foods they eat.
3. Examine foods for fat content.



### Materials

- Magazines, brochures, books, and other text resources
- Computer with internet access <http://www.nal.usda.gov/fnic/foodcomp/search/index.html>
- Food Pyramid
- Nutrition guides from fast food restaurants
- 2 Mason jars
- Water
- Red food coloring
- Paper, pens, markers and 35 squares cut from a brown paper bag
- Several different food items that have different fat levels i.e. French fry, chips, popcorn with and without butter, granola bars and a pretzel
- Softened margarine

*Source: Beacon Lesson Library*

### Anticipatory Set

#### Preparations

1. Be familiar with health-related diseases such as arteriosclerosis and heart disease.
2. Procure menus and nutrition charts from several fast food restaurants. These are usually available from the cashier at no charge.
3. Make a transparency of chart with fat grams per day.

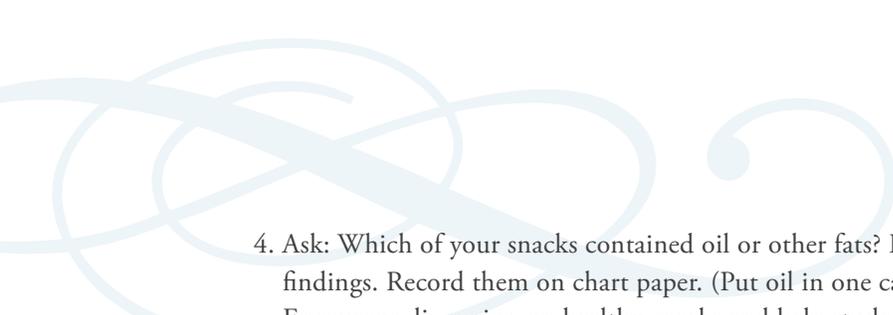
4. Prepare mason jars with red water ahead of time.
5. List the following objectives on the board: a) The student understands the impact of a high fat diet on future quality of life; b) The student understands his personal responsibility in making healthy choices regarding diet.

### **Procedures**

1. Begin the lesson by asking students to list several unhealthy foods on the overhead. Discuss why they are unhealthy (fat, sugar and cholesterol content) (10 minutes)
2. Ask students to tell you their favorite fast food restaurants. List the three favorites on the board. (Be sure you have nutrition guides for these). Ask students if what they eat in these restaurants is healthy. Why? Why not?
3. Discuss health risk associated with diets that are high in fat and cholesterol (heart attack, diabetes, arteriosclerosis, stroke) and the accompanying impact on quality of life. (10 minutes)
4. Demonstrate the effect that saturated fat has on a person's arteries by performing the following activity:
  - a. Fill two mason jars with water and add enough red food coloring to make the water in each jar resemble blood.
  - b. Have a student who ate a fast food meal the day before describe what he ate. As the student tells you what he ate, add the softened margarine to one of the jars. Tell the students that the softened margarine contains saturated fat, similar to what the student described.
  - c. Shake the jar well.
  - d. Pour the colored water out of each jar.
  - e. Show the students the insides of the jars.
  - f. Explain that saturated fats coat the walls of the arteries much like the margarine coated the sides of the jar. This builds up over time, eventually restricting blood flow in these arteries. This is arteriosclerosis.

### **Group Activity**

1. Divide students into three or four groups. Take one of the brown paper bag squares and write oil. Explain to the students that oil contains fats and that they use the brown squares to find out which snacks contain fat. Students put a drop of vegetable oil on the square labeled oil. Now the students hold this square up to the light and talk about what the oil did to the paper and what it looks like.
2. Name the gathered snack foods with students. Hand out paper squares and tell them to write the name of each snack on it.
3. Hand out snack foods to the groups. Hand out the snacks from less oily to oil. Hold up each snack. One at a time have students take turns rubbing the snack on the square several times. Ask them to wait a few minutes and observe the squares by holding them up to the light. Do each one orally together. Compare them to the square labeled oil.

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4. Ask: Which of your snacks contained oil or other fats? Describe, classify and compare snack findings. Record them on chart paper. (Put oil in one category and healthy snacks in other) Encourage discussion on healthy snacks and help students conclude that snacks with less oil are healthier. The teacher assesses students' answers as they give them and provides feedback. An example of positive feedback would be: Very good answer. Pretzels do go in the healthy snack group. An example of corrective feedback would be: Think again. Find the square marked potato chip, what do you see there?
  5. Tell students some snacks provide energy needed for physical activity like foods high in sugar or caffeine. They digest quickly and give your body a boost that produces energy, but only for a short time. For example, athletes who need to run a fast race may eat energy bars or candy bars to give them the extra edge. Or if a person on the job gets very tired, but needs to continue to work productively, he may eat some chocolate or have a cup of coffee. It is a quick pick-me-up, but can fade and often leave the person more tired than before. What would some other examples be? Allow time for discussion. Then record answers on chart paper. Observe students' answers and give feedback for any misconceptions. Some examples of positive and constructive feedback may be: Yes, candy bars like Snickers and Hershey kisses would be a quick pick me up. Chocolate milk, yes that is a good answer because the chocolate and sugar give you a boost. No, popcorn would not be considered a snack high in sugar even though you may see them higher in the Food Pyramid. Let's see where it falls on the food pyramid. I can see where you are coming from. They have butter and butter has fat.
  6. Display poster of the Food Pyramid. Have students recall facts about the fats, oils and sweets group at the top of the pyramid. Discuss how these foods should be limited and are called junk food. Explain that our bodies need some fats, and it is okay to eat snacks, but they should be nutritious to keep our bodies strong. Circle the healthier snacks on the chart and ask students to name others. Make sure students can tell you why the snacks are healthy or nutritious.
  7. Now assign the class to make a journal with the title "Snacks That Are Good For Me." Have students draw a picture of themselves in the center. Then draw at least three healthy snacks surrounding the picture of themselves. Draw a line from the snacks to the body. Ask them to write several sentences about what makes a nutritious snack and how that keeps the body well. Collect student journals for assessment.

### **Questions for Research and Discussion**

1. Some health risks are associated with being overweight. Research and explain four (4) such risks.
2. Discuss how to have good snacks that are also healthy.
3. Research how much fat and sugar is in the foods you regularly eat. Make a list of healthy food you like.

### **Suggestions for parents to reduce fat in their children's diets.**

1. Study labels and become familiar with the fat and calorie content for food that you buy for the family.
2. Buy healthy snacks and treats and leave the rest at the store.
3. Encourage your child to eat snacks that are low in fat, sugar and calories.
4. Be aware that fast food menus are loaded with fats and sugars. Eat fast food less frequently.

# Breakfast, Lunch and Dinner with Gregory

## Objectives

Students will:

1. Student will recognize the importance of nutritious meals through reinforced class activities.
2. Students will discuss and understand why some food is called junk food.
3. Students will locate the components of a healthy breakfast, lunch and dinner.

## Materials

- Mitchell Sharmat (1989) Gregory the Terrible Eater. Scholastic Trade; ISBN 0590433504
- Food pyramid
- Magazines
- Newspapers
- Optional (Internet)

*Source: Sharon Fontenot [www.eduref.org](http://www.eduref.org)*



## Anticipatory Set

### Procedures

(Before you begin)

1. Create a Gregory goat-using an image of a goat's head, enlarge it if needed so it is the approximate size of one sheet of paper, color and back with cardboard or card stock.
2. Cut a hole in the mouth of the goat.
3. Place a gallon baggie on the back of the goat's head so it opens to the mouth. This baggie will hold the food pictures found by the children.

This lesson will span over three days:

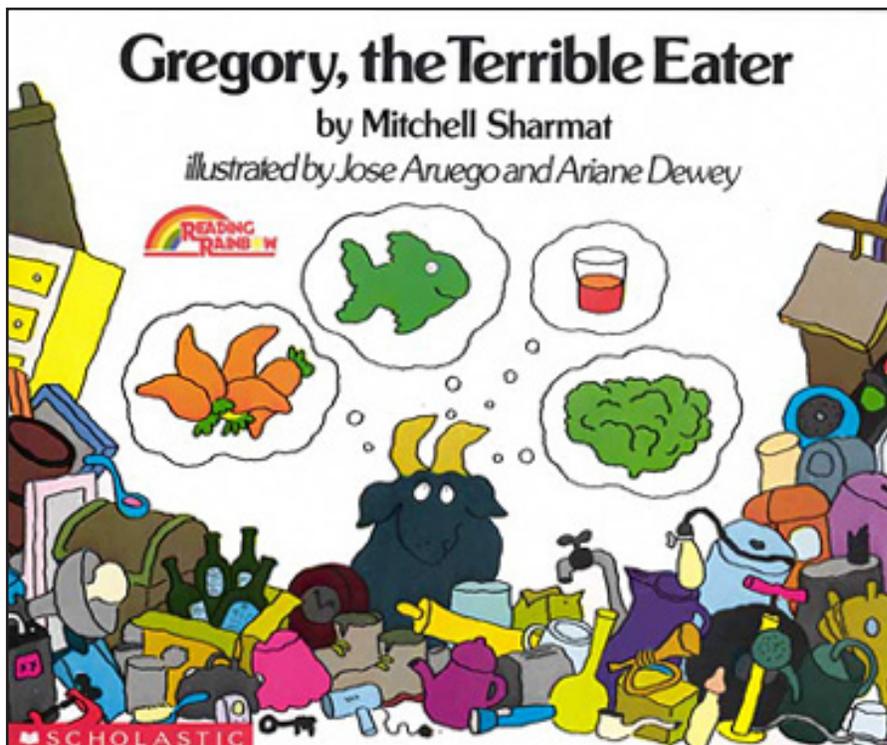
## Group Activity

8. Read the story of "Gregory the Terrible Eater." Gregory eats foods like you and I. How can we make sure his meals are healthy?
9. Using the food pyramid, review with the children the number of servings that are allowed from each group for one day.
10. The children will divide into five groups, each group will be assigned a different food group from the pyramid.
11. Each group will locate foods from a magazine, newspaper or the Internet, appropriate from their food group.
12. Items located will be placed together on a paper plate with the heading "breakfast".
13. Children will discuss the items found. Answering questions such as: Is that a good choice for breakfast? Is it an OK choice for everyday? Make certain that children have allowed for drinks with their meal.

14. Children will mark off servings used from their food group as they use them. The children will locate foods for lunch on the second day and for dinner on the third. The foods will be placed on plates like the breakfast meal.
15. Children will take turns feeding Gregory. Children will say the food and where it belongs on the food pyramid as they feed the goat.
16. Children can take the food items out of the baggie and create new meals for Gregory.

### Questions for Research and Discussion

1. How many sodas should Gregory drink each day?
2. How much milk should Gregory drink each day?
3. What is junk food? Should Gregory eat junk food?
4. What will happen to Gregory if he doesn't eat meals based on the food pyramid?
5. How are kids like Gregory?



# Reading Labels and Creating A Food Diary

## Objectives

Students will:

1. The Student will learn to read a food label to find information.
2. Student will recognize the importance of nutritious meals.
3. Students will learn to collect data to track meals eaten for a week.
4. Students will learn to consider the fat content in what is eaten every day.

## Materials

- One food label per child, have children bring labels from home.
- Worksheet with serving size, percentage of recommended daily allowance of vitamin C, grams of fat, calories from fat, and main ingredient.
- Presentation about food labels (teacher created)
- Food pyramid
- Optional (Internet)

*Source: LetsNET, University of Michigan*

<b>Nutrition Facts</b>	
Serving Size 1 ounce    Servings in bag 4	
Amount Per Serving	
Calories 155	Calories from Fat 93
% Daily Value*	
<b>Total Fat</b> 11g	16%
Saturated Fat 3g	15%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 148mg	6%
<b>Total Carbohydrate</b> 14g	5%
Dietary Fiber 1g	5%
Sugars 1g	
<b>Protein</b> 2g	
Vitamin A 0%	• Vitamin C 9%
Calcium 1%	• Iron 3%

\* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

## Anticipatory Set

### Procedures

1. Explain food labels using the PowerPoint presentation. Include information about how to find the serving size, servings per container, recommended daily allowance, and ingredients.
2. Ask students why they think it would be important to know how to find this information.
3. Pass the food labels and worksheets out.
4. Have the students practice finding what is asked for on the worksheet. Being able to read a label is an important step towards healthy eating.

## Group Activity

Have students track fat for one day in everything they eat. If cafeteria counts are not available, estimate from a fat counting book. Each student will track the day of the week, items eaten, number of servings, and total calories from fat. This will be done by reading labels and measuring food. Important: The students should remember to multiply the number of grams times the number of servings to get the total fat eaten.

When food is purchased away from home, ask the cashier for a nutrition guide for that restaurant. It may not be possible for students to find the nutritional information for all food that is purchased prepared. In these cases, the student will have to estimate how much fat was in these foods.

The next day, fat calories will be put into an excel worksheet. Calories will be totaled for the class to determine how many fat calories the class ate all together.

## Questions for Research and Discussion

1. What happens if you have more than the recommended daily amount of fat everyday?
2. What diseases are side effects of eating too much fat?
3. How can you reduce fat in your diet consistently?

### Serving Size

Many times the given serving size is smaller than what is eaten. If 2 servings are eaten, make sure to double all nutritional values. Pay attention to serving size when comparing foods.

<b>Nutrition Facts</b>	
Serving Size ½ cup (114g)	
Servings Per Container 4	
Amount Per Serving	
<b>Calories</b> 90	Calories from Fat 30
% Daily Value*	
<b>Total Fat</b> 3g	<b>5%</b>
Saturated Fat 0g	<b>0%</b>
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 300mg	<b>13%</b>
<b>Total Carbohydrate</b> 13g	<b>4%</b>
Dietary Fiber 3g	<b>12%</b>
Sugars 3g	
<b>Protein</b> 3g	
Vitamin A 80%	Vitamin C 60%
Calcium 4%	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
Total Carbohydrate	300g    375g
Dietary Fiber	25g    30g
Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4	

### Total Carbohydrate

Remember that one serving of carbohydrate contains 15grams. The amount of sugar and dietary fiber is included in the total carbohydrates.

### Dietary Fiber

If the label shows 5 grams of fiber or more, subtract the grams of dietary fiber from the total carbohydrates.

If a food contains 5 or more grams of *sugar alcohols*, subtract half the grams of sugar alcohols from the total carbohydrates.

### Total Carbohydrate Intake:

~15 grams = 1 serving                      ~45 grams = 3 servings  
 ~30 grams = 2 serving                    ~60 grams = 4 servings

## Take the challenge

Which foods are best to eat?

**1. You have a choice of eating one of the following. Which one is the best choice for you to eat?**

- A serving of baked chicken    A piece of fried chicken    A serving of fried chicken tenders

**2. Which one of these is the best choice for you to eat?**

- A chocolate cupcake    An Apple    A bag of popcorn

**3. Which major food group gets the most servings of food for your daily meals?**

- Meats and Beans    Vegetables    Fruits    Grains    Milk

**4. Which major food group gets the least servings of food for your daily meals?**

- Meats and Beans    Vegetables    Fruits    Grains    Milk

**5. What is the best way to put milk in your diet?**

- Drink low fat milk or eat yogurt    Drink soy milk    Eat ice cream

**6. Which fruit has less sugar than the others?**

- Banana    Apple    Grapes    Pineapple

**7. You should drink sweetened drinks like sodas less often because:**

- The amount of sugar is very high  
 Soft drinks take the place of healthy foods at mealtime  
 Both of the Above

**8. The basic food groups give you a guide about how much to eat of each type of food. The food is measured and a total amount is recommended per day. This is**

- A helping    A serving    A portion    All of the above

**9. In addition to eating a balanced diet from the food groups, it is important to watch your use of**

- Salt  
 Sugar and sugary foods  
 Fats and oils  
 All of the above

**10. If you want to lose weight, what do you need to do:**

- Stop drinking sweetened drinks  
 Eat more fruits and vegetables  
 Be more active and exercise



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Broadcasting

3825 Ridgewood Road • Jackson, MS 39211  
mpbonline.org • (601) 432-6565