

## **Childhood Obesity: Eating For Worth Not Girth**

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### **Overview**

Childhood obesity is a growing national concern. Children who are overweight face various health issues both now and in the future. Our students need current and crucial information on good nutrition, and the importance of making healthy food choices, today. Prompted by the ever present “black plastic bag” that students carry their lunch in daily, my students and I often discuss unhealthy eating habits. Better food choices and adequate physical activity are two components that help to prevent childhood obesity.

This unit on childhood obesity focuses on making better food choices and increasing physical activity for my fifth grade students. I will explore with the students the consequences of unhealthy choices and the benefits of physical activity. This Unit: “Childhood Obesity: Eating For Worth Not Girth” will enhance the School of Philadelphia’s Health and Physical Education Core Curriculum. In conjunction with concepts of health, this unit will also include aspects of math, writing, science and literacy skills. It is designed to last for two weeks with daily lessons of 30-45 minutes each.

## **Rationale**

I became interested in this unit because I felt that my fifth grade students lacked the knowledge of, and exposure to, better eating habits. In Philadelphia, it is not uncommon to see students carrying the ever present 'black plastic bag' that contains their lunch. The contents of these bags are usually a colorful, sugary drink such as soda pop or a Hug (artificial juice drink), chips, cheese curls or popcorn; a sodium laden deli meat sandwich, small pieces of candy, gum and cookies or some sort of pastry. Students frequent small grocery stores that are located within a two block radius of the school. The merchants place customer purchases in black plastic bags.

My cause for concern developed because the foods students were eating contained high sodium, high fat and high sugar ingredients. Students are accustomed to the same basic eating habits as their families and see no need for change. For example, there is usually a huge, high calorie meal at holidays, with the same fare. Years of these habitual eating habits have added pounds and inches to their growing frames. Children are gaining weight fast and early. Eventually overweight can occur and subsequently obesity.. I intend to expose my students to the importance of good nutrition and physical activity. This knowledge can help make them better choices now and in future years.

## **Obesity**

Through the years, the meaning of obesity has shifted. We will look at the meaning of obesity, the importance of the Food Pyramid and the necessity for physical activity.

The meaning of obesity, which has commonly been attributed to one who is overweight or extremely fat, has been euphemized as having 'excess fat'. When people talk about being overweight they mean that someone has more body fat than is healthy. Overweight is having extra body weight from muscle, bone, fat and/or water. Obesity is having a high amount of extra body fat. Everyone has some amount of body fat because it is a necessity. Excess body fat affects the person's health and ability to walk, run and get around. It also affects the way they look and may cause them to be bigger and rounder than other people.

## History of Obesity

Historically, a fat child meant a healthy child, one who was likely to survive the rigors of undernourishment and infection. Obesity was associated with physical attractiveness, strength and fertility. It was, and in some places still is, considered a symbol of wealth and social status in cultures prone to food shortages and famine.

## Present Perspective on Obesity

In modern, western culture, the obese shape is widely regarded as unattractive and many negative stereotypes are attributed to obese people. Obese children are frequently the targets of bullies and are shunned by their peers. Although obesity rates are rising among all social classes in the West, it is often seen as a sign of lower socio economic status.

“In the past decade, excessive fat has become the primary health problem in many parts of the world. In twentieth- century America, we enjoy a standard of living that surpasses any standards in the past. We are well nourished, well educated, live in attractive homes, have clean water, good sewage systems, we are fortunate to have advanced technology and medicine that protects us from diseases such as malaria, rheumatic fever, malnutrition and yellow fever. We have powerful drugs, vaccinations, and technologies that cure illnesses and prolong our lives. Unfortunately, many nations in the world still suffer from these and other maladies. Yet, we are faced with other diseases that attack our bodies because of our living habits. We now have high rates of heart disease, cancer, stroke and obesity.” (Smith,1999).

Americans walk less and have adopted a more sedentary life style thanks to the internet, mail order, pay-per-view television, computer games and many other new, technological advances that may keep people from walking more often. Americans are still putting huge portions of food on their plates at home and in restaurants and engaging in many popular fad or ‘yo-yo’ diets that later only retrieve any weight that was lost.

## Public Health

Obesity has become a public health problem. Obesity and overweight affects Americans of all sexes, racial/ethnic groups, and educational levels. Overweight and obesity are also

common in groups with low incomes. “Among children and teens, overweight in non-Hispanic White teens is related to a lower family income. Low income families buy more high calorie, high fat foods, which may add to the problem. This is because they tend to cost less than more healthful foods such as fruits and vegetables. This serious problem has been growing over the years.” (National Institutes of Health, 2008).

Approximately 13 percent of children aged 6-11 and 14 percent of adolescents aged 12 to 19 are overweight, more than double the rate of thirty years ago. The increased waistlines put children at risk for heart disease, type 2 diabetes, high blood pressure, stroke and respiratory problems as well as many other health problems. In addition these extra pounds also put children at risk for sleep apnea, a serious debilitating and potentially life-threatening sleep disorder, according to the National Sleep Foundation. (National Sleep foundation, 2008)

For most people, overweight and obesity are caused by not having energy balance. Weight is balanced when the amount of energy or calories you get from food and drinks (energy *in*) equals the energy your body uses for things like breathing, digesting, and being physically active (energy *out*). Obesity is the direct result of ingesting too much energy in the form of food and expending too little energy in the form of physical activity. “Only 23% of children meet government guidelines for one hour of physical activity per day.” (CDC, Consequences 2007). Americans are surrounded by huge food portions in restaurants, fast food places, gas stations, movie theaters, supermarkets and even home. Eating large portions means too much energy *in*. Over time, this will cause weight gain if it isn’t balanced with physical activity. This problem is amplified by a lack of access to healthy foods. Some people don’t live in neighborhoods that have supermarkets that sell fresh fruits and vegetables; if they do they are often perceived as too expensive.

The current increase in the prevalence of obesity has little to do with genetic factors, but much to do with changes in the way in which children and adults are eating and exercising. There is an obvious shift away from traditional high-fiber, low fat diets towards high energy, high fat, low fiber diets. This is coupled with an increase in sedentary behaviors, as mentioned before. One interesting contributor to the cause of obesity is maternal employment. When mother is out of the home working for more than 10 hours a day, children have to fend for themselves for meals. Typically, these meals are processed foods that need to be cooked in the microwave, foods full of sugars and starches and few if any, fruits and vegetables. Children also will seize this opportunity to watch more television and play computer games. A study from the National Bureau of

Economic Research on the relationship between mother's employment outside the home and childhood obesity, found "a direct, casual relationship between more intensive maternal work hours and overweight children. Mothers who work more hours per week were more likely to have an overweight child than mothers who worked fewer hours or not at all." (Anderson, et. al., 2002).

When it comes to eating behaviors bad habits, as well as good, can be learned by children. Maternal obesity is another contributor to childhood obesity. "Research has shown that there is a connection between pre-pregnancy obesity and the weight of the children. In a group of 3,022 mother-child pairs, the mothers who were overweight before pregnancy had children who were three times more likely to be overweight by the age of 7 than mothers who were of healthy weights. The likelihood of overweight children increased with the degree of mothers' obesity ". (Reagan, 2005)

#### Physical activity and environment

Physical activity is crucial in combating overweight and obesity. Physical activity reduces the risk of obesity for children. The best time to start exercising is now when children are young. Children who exercise regularly develop the habit of being active and are more likely to stay active when they get older. Fitness is a combination of several different things-flexibility (bending and twisting), strength, endurance (staying power), and balance. Children today aren't as active as children were in the past. Many children spend more time watching TV, playing video games, or using the computer than they spend getting involved in outdoor activities.

"Our environment doesn't always help with healthy lifestyle habits, in fact, it encourages obesity. There is a lack of safe places for recreation. Not having area parks and trails and affordable gyms makes it hard for people to be physically active." (National Institutes of Health, 2008). Unfortunately, in today's society, playing outside is not so safe. Stray bullets, careless automobile drivers and sexual predators keep many children indoors early and often. However, there are exercises that can be done in the safety and comfort of one's home like jumping jacks, running in place and sit ups. Staying active and eating fewer calories will help children lose weight and keep it off over time. Physical activity also helps to strengthen muscles, lungs and joints, provides more energy, lowers the risk of certain diseases and helps you to sleep better.

## Food Pyramid

### History

The food pyramid can help students identify which foods are needed for good nutrition. It is a graphical representation allowing people to better understand how to eat healthily. The food pyramid was conceived in the 1960s as a result of an increase in Americans getting heart disease. Before vitamins and minerals were discovered, the United States Department of Agriculture (USDA) published its first dietary recommendations to the nation in 1894. Soon after that, in 1916, the first food guide, called Food For Young Children was published. It was divided into 5 groups: milk/meat, cereals, vegetables/fruits, fats/fatty foods, and sugar/sugary foods.

In 1941 president Franklin Roosevelt called a National Nutrition Conference which came up with the Recommended Dietary Allowance (RDA) for Americans to follow as a nutritional guideline to help people deal with the shortage of food supplies during the war. The Basic Four (milk, meat, fruits and vegetables, and grain) was introduced and used for the next 20 years. By 1970's the USDA tried to address the roles of unhealthy foods by adding a fifth category to the Basic Four: "fats, sweets and alcoholic beverages, to be consumed in moderation". In 1988 a graphic to represent food groups was first created and introduced.

Food Pyramid- Old and New According to the old, black, graphic pyramid a diet should be centered on eating mainly foods that are at the base of the pyramid, and eating less of the foods at the top. Serving recommendations were 6-11 servings of grains, 3-5 servings of vegetables, 2-4 servings of fruits, 2-3 servings of dairy, and 2-3 servings of meat. Weight watchers were advised to concentrate on eating only the minimum number of recommended daily servings.

The USDA changed the food pyramid in spring 2005 because they wanted to convey a better example of how to eat more healthily. The graphics of the new food pyramid,

called “MyPyramid”, interpret the food groups as rainbow colored bands vertically from the top to the base. Orange is for grains, green is for vegetables, red is for fruits, yellow-silver is for oils, blue is for dairy and purple is for meats and beans. On one side of the pyramid a human figure climbs steps to the top of the pyramid depicting an emphasis on the need to exercise daily. The four food groups have been expanded to six groups and the recommendations for daily amounts of each group have changes in order to meet the calorie needs of most people. A daily serving size now consists of: 6 ounces of grains, 2.5 cups of vegetables, 2 cups of fruit, 3 cups of dairy and 5.5 ounces of meat. The new food pyramid addresses flaws in the original USDA food pyramid and offers better, up to date information making it easier to follow guidelines concerning what they should eat. It is more flexible and accurate than the old one.

## **Objectives**

This unit will incorporate the School District of Philadelphia standards as it integrates math, literacy, writing and science with health and physical education. The main objectives of this unit are threefold: to understand the issue of childhood obesity as a growing health concern; to learn the importance of the food pyramid and discover reasons why it has changed over time; to realize the necessity of including 60 minutes of physical activity into a daily routine.

In the lesson plans that follow, students will, examine the issue of obesity through teacher and student presentations, keep journals about daily food choices and consumption, use the pyramid to learn about portion control and food combinations, read and understand food labels, calculate calories from contents in their “black plastic bag”, enjoy fruit and vegetable tastings in class and engage in more physical activity outside of play time. The lessons will enhance students’ skills in the following areas: reading comprehension, critical thinking and logic, self esteem, informational and persuasive writing, measurement, decision making and self esteem building.

I would like my unit to allow my students to become knowledgeable about their food intake and the benefits and possible dangers involved in eating certain foods. They will know that the primary goal of fast food restaurants and neighborhood grocery markets and learn that that selling food quickly and inexpensively does not provide the best nutritional value to their customers. Students should be aware that they have choices and what they choose *now* in their lives has an impact on their future health. Exposure to different types of foods and styles of cooking are also beneficial when making food choices.

My class has talked about food choices and their nutritional value. To learn something new, and then share it with their parents or siblings who may not have had this knowledge, enhances a child's self esteem. Students will be able to help with grocery shopping, food preparation and cooking at home and this also gives their parent a break.

Students will look at exercise differently. They will know that it's better to take the stairs than the elevator, have Mom park the car farther away from the door of the mall, do some leg lifts, arm lifts or sit ups when watching television for 30 minutes or so. Students may have a better chance of influencing their siblings to change their habits, even if parents don't care to change theirs.

Standards used in this unit will be 10.1 Concepts of Health: 10.3C, 10.1.6C, 10.19A; 10.4 Physical Activity 10.4.3B, 10.4.6C, 10.4.9B Everyday Math: 2.3A, 2.3B, 2.8D, 2.4A 2.5E, 2.6A, Literacy: 1.4A, 1.4B, 1.5A, 1.5F.

### **Strategies**

Students will be engaged in writing assignments that involve personal experiences, recipes, meal planning. EAT.RIGHT.NOW is a nutritional program in conjunction with the Philadelphia School District that has been providing participants with samples of different types of fruits and vegetables with accompanying lessons. We will continue utilizing this program beyond the course of this unit. We will share different cultural eating habits and types of foods with our peers (two of my students are from different cultural backgrounds-Trinidad and Jamaica). Students will do a group KWL chart (what do you know, what do you want to know and what you have learned) for this activity. Various physical exercises can be done in the schoolyard, on the stairs and in the

hallways to show how exercise can be done almost anywhere. Most classroom assignments and activities will be done in groups or pairs.

### **Classroom Activities/Lesson Plans**

I would expect my curriculum unit to last about two weeks, given the other subjects we have to cover daily. Each lesson will be a minimum of 45 minutes.

#### Day 1

**Objective:** Students and teacher will define obesity and discuss some terms associated with it, for example: 'overweight', 'calorie', 'metabolism', 'cholesterol', 'saturated fats', 'unsaturated fats' and 'lean'. We will discuss history and some cultural aspects of obesity. Words associated with obesity will be used for a word wall.

**Activity:** Students will work in cooperative groups to brainstorm who may be at risk for obesity and how they think people become obese. They will make a KWL chart and present it to class. One student in the group will be the recorder of everyone's ideas including his or her own. Ideas will be listed on a chart paper and read to class for comparison and contrasting.

**Standard:** Math 2.3A Solve problems involving weight. Literacy 1.5F Write multi paragraphs.

#### Day 2

**Objective:** Students will lead a class discussion on what they think healthy and unhealthy eating habits are and how they may contribute to obesity and overweight.

**Activity:** Two student volunteers will act as teachers to lead discussion. Following discussion, students will work in cooperative groups to write out meals that they feel cause obesity and overweight. Each student in the group will write their own meal plan, conferring with other group members for assistance. In addition, students will think of a healthy 'Daroff Diet' that is served exclusively at their school.

Standard: Literacy/Writing. 1.4A Write topic sentence with details.

### Day 3

Objective: Teacher will review the old and new food pyramids. Using the pyramid, students will write out a healthy eating plan that they believe may prevent obesity and overweight.

Activity: Students will work in pairs to devise healthy eating meals for breakfast, lunch, dinner and a snack. Using a Venn diagram they will compare with another peer pair to see if all foods used on their lists were healthy.

Standard: Health 10.1.3C Explain the role of the food guide pyramid in helping people to eat a healthy diet.

### Day 4

Objective: Teacher will discuss and define exercise, and the importance of it for preventing obesity.

Activity: Students will list several reasons why exercise is good for the body. Students will demonstrate some low intensity, but beneficial, exercises for the class. Working in groups, one student recorder in the group will write the other students' ideas on a chart. Each student will explain his or her own idea and demonstrate a different exercise.

Standard: Health 10.4.3B

### Day 5

Objective: Teacher and students will list the different types of exercises that students do at recess. Students will compare these with the structured exercises done in gym class.

Activity: Students will make a Venn diagram comparing and contrasting both types of exercises. Students will discuss how exercises are beneficial to them. Students will work in pairs, writing information on the diagram.

Standard: Health 10.4.3B Literacy/Writing 1.5C

## Day 6

Objective: Teacher and students will discuss how food companies market fast food to children.

Activity: Each student will bring in an advertisement that shows some food product with a child or children in the picture. Student will discuss what the ad is 'saying' to the reader. Each student will make a fictitious product and try to sell it to a pair of students.

Standard: Literacy 1.3B

## Day 7

Objective: What are some of the most popular fast food places?

Activity: Students will take a survey from several different classrooms and graph the results. Students will work in small groups and choose four classrooms, other than their own, to take a favorite fast food survey. They will compile the data and post a graph.

Standard: Health 10.1.9.A, Everyday Math 2.6A

## Day 8

Objective: Students will have write a response to the question: What can be done by parents to keep their children from getting obese?

Activity: Students will provide a written two page essay addressing the question. They can interview parents or come up with their own ideas. They will only use materials learned in class. No outside research is necessary. This will be submitted for a writing grade.

Standard: Literacy/Writing 1.5F. Write multiparagraphs. Use nouns, verbs correctly. Use complete sentences.

Day 9

Objective: Create your own gymnasium.

Activity: Student will work in pairs to construct their own gym. They will use their artistic abilities to equip a gym just for children their age to use. They will give it a name and include some special features of it. They will write a one page flyer advertising their gym

Standard: Physical Activity 10.4.3B, Literacy/Writing Write informational pieces 1.4B

Day 10

Objective: Create your own gymnasium, continued.

Activity: Students will write a contract with rules and regulations for gym membership. They will also provide personal trainers with special qualifications for customers' specific needs. Students will make a conclusive KWL chart about the unit.

Standard: Physical Activity 10.4.3B, Literacy/Writing Write informational pieces. 1.4B

The class will close the unit with a healthy food luncheon. The students and teacher will bring in prepared dishes of fruit, salads, cheeses and vegetables, or anything else they deem healthy, to be enjoyed by all.

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