

1-2006

## Rise in Obesity

Tracy Boughter  
*The College at Brockport*

Follow this and additional works at: [http://digitalcommons.brockport.edu/cmst\\_lessonplans](http://digitalcommons.brockport.edu/cmst_lessonplans)

 Part of the [Physical Sciences and Mathematics Commons](#), and the [Science and Mathematics Education Commons](#)

---

### Repository Citation

Boughter, Tracy, "Rise in Obesity" (2006). *Lesson Plans*. 300.  
[http://digitalcommons.brockport.edu/cmst\\_lessonplans/300](http://digitalcommons.brockport.edu/cmst_lessonplans/300)

This Lesson Plan is brought to you for free and open access by the CMST Institute at Digital Commons @Brockport. It has been accepted for inclusion in Lesson Plans by an authorized administrator of Digital Commons @Brockport. For more information, please contact [kmayers@brockport.edu](mailto:kmayers@brockport.edu).

# Rise in Obesity

## Problem Definition

Obesity is a serious American epidemic. Obesity is not just about a person being overweight it is about the dangerous effects of being obese. It was important for us to look at this problem and analysis the results of the future if this trend is to occur at its ever growing rate. What we decided to do is integrate technology to help us analysis this obesity problem. First we needed to gather our information to help us start on the analysis. We received information for a variety of resources. One great resource was the library. Although there were only a few books that contained the exact information we needed the information was very useful. However, a better resource we found to be more useful was internet especially for statistics and facts.

After we gathered our information from both the internet and the library we broke our information into categories. The first was the facts about obesity, the statistics on the percentage of people obese throughout the past 20 years and the dangers of being obese. We used our dangers of obesity and the facts for our poster board and our power point. The statistics we used for modeling our problem in the graphing calculator and on geometers sketchpad.

Since our information on the statistics only provided us with the years and percentage of people obese that year we needed to come up with the best fit linear line that fit our data. To do this we needed our Texas Instrument graphing calculator. We plotted the years in list one and the percentages for the years in list two under STAT in the calculator. We then calculated a linear regression for the given lists. By doing this we can come up with the best fit line. We now that the percentages of obese Americans have been increasing. If the rate increases at the same rate we can predict using our best fit line what the rate will be in 10 years, in 20 years, in 30 years and so on.

## Problems Encountered

There were many problems that were encountered along the way on our project. The first problem encountered was what our project was going to be. There were many things we wanted to investigate so narrowing it down to one was difficult. After we had all decided our topic was going to be looking at the rise of obesity, the nest problem encountered was finding relevant information that worked for our specific problem. The search in fact lead us to receive help from both a librarian and a health teacher. Eventually we found the exact statistics we needed. The last thing that seemed to be a problem was working on geometer's sketchpad. Since it was a tool none of us had used before it seemed a bit rough first but it all worked out and we got out linear line to work.

## **Evaluation of Results**

After generating our results from Geometer's Sketchpad, we can predict that in 2010, the obesity rate will be approximately around 30.5 percent in the United States. In 2020, obesity rate will be in the relative area of 40 percent, and in 2030, obesity rate will reach around 50 percent. These results are based on the previous recorded data from the past twenty years and will only remain true if pattern remains constant. Information can not be one-hundred percent accurate because in the year 2082, our data states that 100 percent of the American people will be obese. We did not account for outside factors, we know these factors in the future can change our predicted data which we are hoping it will do. Our goal was to raise the awareness of obesity and hope that our data is not the true data of the future.

## **Curriculum Standards:**

The great thing about mathematics is that it can always be related to real life. Our project was well aligned with the New York State Learning Standards. Students applied mathematics to solve a real-world setting problem. Students used their mathematics reasoning to predict what they thought the rise will be in 10 years, in 20 years and in 30 years. They then constructed an equation through using the appropriate technology. Based on the equation generated they were able to solve their problem through the integrated study of algebra.

New York State Learning Standards: Mathematics, Science, and Technology

Standard 3: Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry

## **Student Reflections**

Doing this project with Mrs. Boughter has taught me that math is used in the real world. I've learned many things such as how to use Geometer's Sketchpad and how to form linear regressions. Facts about being overweight and obese were brought to my attention. Dangers and statistics of obesity rates are growing rapidly. Also, doing this project has helped me improve my research skills. My favorite thing about this project was learning the scary statistics and the rates at which obesity is increasing. This project has taught me to watch what I eat, and not to take in calories that you're not exercising off. Obesity is not a joke, so many diseases are caused by obesity and people die from it everyday. The reason we used obesity as our topic, is because obesity is a major part of our society. When people think of Americans they think of fat people. We want people to be aware of the dangers of obesity and see how much the rate has increased.

By doing this project on obesity with Mrs. Boughter I have learned many things. I have learned what exactly obesity is and how it affects America. I have also learned how to eat healthy. By working on this project I have learned how to research and find creditable sources. I have learned how to do a linear regression on my Texas Instrument calculator which will help me in math. I have also been able to create a PowerPoint and use the program Geometry Sketch Pad. I have also learned how to calculate and analyze data. I have also made friends with the people on my team and been able to practice working together and accomplishing tasks. I really enjoyed working on this project with Mrs. Boughter because I have learned so many new things and had so much fun.

My experience doing this project with Mrs. Boughter taught me many things. I learned new things on my calculator, like lists. We learned how to do linear regressions also. It was fun and interesting learning about obesity and the dangers of it. Everyone learned how to use geometry sketchpad. I think almost everyone improved their research skill. This project showed me how this type of math is used in the real world. My favorite part of this project was the statistics. It was amazing how much obesity has increase through the past few years. We learned al about how people became obese and how many diseases is caused from being obese. This made me realize I should eat healthier and exercise daily. We chose to do this project to let people know about how obesity has increased and warn them about the dangers. Overall, I learned a lot from dong this project with Mrs. Boughter.

Obesity has affected my life to a great extent. When I was in third grade, I became friends with a girl who, at the time, was considered obese and she was always picked on it. I myself stood up and gave some kids bloody noses for picking on her but she ended up losing the weight and becoming extremely popular. She and I still talk but I never thought obesity was in the extremes as it was. Now that I have done this project, I am in awe at the stats of the world's obesity rates. I never realized how big this problem is and how it creates so many problems for the body. After reading up on obesity and finding out how obese our country is, I find myself closing up and pushing away the bag of chips just a bit sooner.