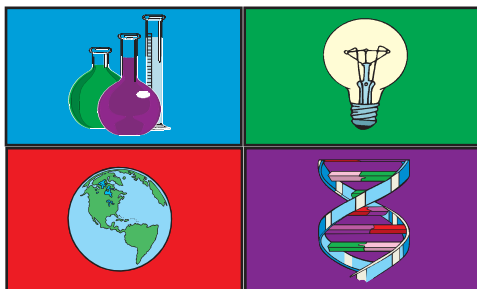


Science TODAY™

Student Edition

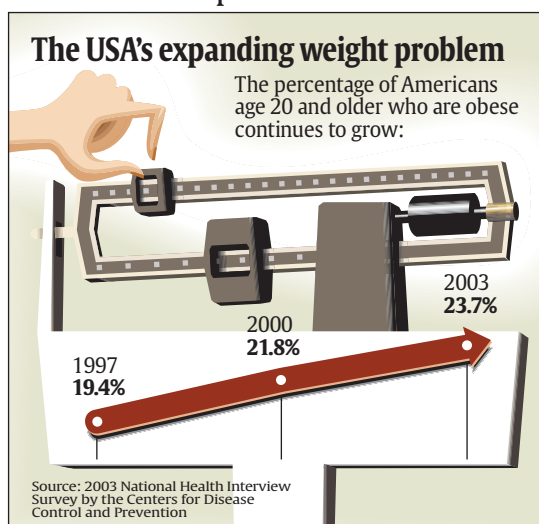
USA TODAY

NO. 1 IN THE USA



The USA's expanding weight problem

USA TODAY Snapshots



By Bob Laird, USA TODAY

Focus Questions:

- What has been the trend in the rate of obesity in the United States over the past several years?
- Based on a mathematical model, predict the percentage of Americans who will be obese in the years to come.
- How many people in the United States suffer from obesity?
- What can YOU do to maintain a healthy body weight?

Activity Overview:

Many dieters have said in frustration, "The problem with food is that it tastes too good!" How true! In the United States, we have a virtually limitless variety of foods. We have choices that people in other parts of the world can't even imagine. We also have a supply of food that would stagger the minds of the people from most other nations on earth. This presents a problem for many people in our country, as evidenced by the steady increase in obesity over the past several years. Obesity is now considered a disease in many medical circles, and its impact on individuals and on society is overwhelming. In this activity, you will look at the data concerning obesity in the United States, analyze the trends and do some nutritional evaluation.

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This activity was created for use with
Texas Instruments handheld technology.

The USA's expanding weight problem

Procedure:

Step 1

Using the USA TODAY Snapshot "The USA's expanding weight problem" and the table below, enter years in L1 and the percentage of Americans who are obese in L2.

Step 2

Create a scatterplot for the data.

Step 3

Press p and set the appropriate values for the X (independent) variable and for the Y (dependent) variable.

Step 4

Press s and describe the trend you see in the graph of your data.

Step 5

Use the calculator to create a linear regression model.

Step 6

Use the regression model to predict the percentage of the U.S. population that will be obese in the year 2010.

Year	Obesity Percentage
1997	19.4%
1998	20.6%
1999	21.5%
2000	21.8%
2001	23.0%
2002	23.9%
2003	23.7%

Data Source:

2003 National Health Interview Survey by the Centers for Disease Control and Prevention

Materials:

- TI-83 Plus family or TI-84 Plus family

Additional Information:

- Internet document from the Centers for Disease Control indicating the historical prevalence of obesity among American adults:

www.cdc.gov/nchs/data/nhis/earlyrelease/200406_06.pdf

- USA TODAY Education case studies:

www.usatoday.com/educate/casestudies/index.htm

The USA's expanding weight problem

Assessment and Evaluation:

1. In this activity, what is the independent variable? _____
2. What is the dependent variable? _____
3. What is the slope (rate of change) of the regression line? _____
4. What would be the appropriate unit label for the slope? _____
5. What does the slope of the graph indicate? _____

6. If the population of the U.S. was about 281 million in the year 2000, how many people in the U.S. would have been considered obese in the year 2000?

7. From the mathematical model, what do you predict the percentage of obese Americans will be in 2010?

8. Name two factors that are critical in order to achieve and maintain a healthy body weight.

Student Notes: