



# Losing It

*Activity 2: Grades 9-12*

## **Healthy Choices**

Whether you're trying to lose weight or not, you should have an appreciation and understanding of good nutrition. Proper diets are critical to adolescents. Yet these are the ages in which both poor food choices are made and irregular eating habits developed. But there's more than diet to good health. In addition to nutrient intake, it's important to maintain an ongoing program of physical exercise. With a mix of proper nutrition and adequate exercise, you can help secure a future of long-term health.



This activity page will offer:

- The opportunity to create a daily food record
- A chance to compare nutrient intake with minimum requirements
- An opportunity to apply critical thinking to healthy food choices

### **Consumed and Expended Calories**

Gain or losing of weight depends on a balance between calories consumed and calories expended. When the amount of consumed calories is greater than the number of calories needed to maintain a healthy body, the excess is stored as fat. In contrast, if the consumed calorie amount is less than the number of calories needed to maintain the body, fat is burned in order to make up the difference. This results in a weight loss.

### **Knowing the Balance**

To best understand your calorie balance, you should be aware of how many calories you burn in a day. This amount, known as the total daily energy expenditure (TDEE), varies widely among individuals. On average, for females in the U.S. this maintenance level is between 2000-2100 calories per day. Males have a higher TDEE at 2700-2900 calories per day. In the following activity, you'll determine your caloric intake. You'll also use several calculations to determine your personal TDEE.

## Materials

- Calculator
- [Copies of Reporting Sheets](#)

**SAFETY NOTE:** The caloric intake and TDEE values calculated in this activity should NOT be used as a basis for an actual diet. They are approximations that are only applicable to this activity. To determine actual values, see a professional nutritionist or a physician.

## Steps

1. Make three copies of the [food reporting sheet](#). Label and date each copy for three consecutive days.
2. On day one, begin reporting each food item you consume. Organize the foods in sequence under the headings of breakfast, lunch and dinner. If you need more space, continue the list on the reverse side of the reporting sheet.
3. Determine calories by using the information reported as nutritional facts on the container of the food item. If you don't have access to these facts, you can use print resources or [log onto the URL](#) <http://www.nal.usda.gov/fnic/>.
4. From the three days of reporting, calculate an average daily calorie consumption. Record this number as caloric intake.

## Determining TDEE

1. The simplest (and least accurate) method to determine TDEE involves a simple calculation. Determine your body weight in pounds. Multiple this number by 15.5 in order to approximate your TDEE. NOTE: Although this method is simple, it is highly inaccurate, especially when it is applied to individuals who are significantly overweight.
2. Using the number you've calculated above, compare it to your average caloric intake. If the intake and TDEE are about equal, then most likely you'll maintain a stable body weight. If your intake is several calories less than the TDEE, then you should lose weight. Likewise, if your intake is several calories more than your TDEE, you should gain weight.

### **Harris-Benedict Calculation T**

3. The Harris-Benedict calculation is a little more complex in calculating, but it provides a more accurate TDEE. It does not, however, include muscle-to-fat ratios in its computation. The Harris-Benedict formula uses two steps to determine the TDEE. First a base TDEE is determined. Then, the base is adjusted for activity level.

### **To determine the base TDEE for females:**

$TDEE = 655 + (4.4 \times \text{weight pounds}) + (4.6 \times \text{height in inches}) - (4.7 \times \text{age in years})$

**To determine the base TDEE for males:**

$$\text{TDEE} = 655 + (6.2 \times \text{weight pounds}) + (12.7 \times \text{height in inches}) - (6.8 \times \text{age in years})$$

- Adjust your TDEE for your activity level by multiplying the values calculated in step four by the appropriate value listed below.

|                       | Females      | Males        |
|-----------------------|--------------|--------------|
| Little or no exercise | TDEE x 1.2   | TDEE x 1.2   |
| Light exercise        | TDEE x 1.375 | TDEE x 1.375 |
| Moderate exercise     | TDEE x 1.55  | TDEE x 1.55  |
| Heavy exercise        | TDEE x 1.725 | TDEE x 1.725 |
| Very heavy exercise   | TDEE x 1.9   | TDEE x 1.9   |

- Record your TDEE and compare it to the caloric intake you entered in your journal.

**Questions**

- What would be the likely outcome if your TDEE were greater than your caloric intake? Explain.
- What would be the likely outcome if your TDEE were less than your caloric intake? Explain.
- Why is the Harris-Benedict calculation more accurate than the initial estimate presented in step one?

**Online Ads**

As you are aware, the Internet offers all sorts of information. To use this information wisely, one must critically examine the posting content and underlying philosophy of the site. Search the Internet for commercial diet sites. Select several sites. Analyze their pages for unbiased information, assumptions and hidden agendas. What are they selling? Is their information valid?

**Balance Point**

As you learned in this segment, people seem to be programmed to a general weight set point. Once an intense dieting regimen ends, people are likely to return to their pre-diet weight. How could you communicate this concept using an ordinary ruler balanced on a fulcrum (like a seesaw)?

**Diet Ad Index**

What is the ratio of diet advertisements to other types of ads in magazines? Examine an assortment of magazines that specialize in topics such as sports, news, self-help, fashion, celebrities, and homes. Count the number of ads that pertain to diet and the total number of ads. Calculate a ratio of diet:total ads for each magazine. Create a class chart based on your findings that identifies how each magazine fits into this ratio.

## **Web Connection**

### **Food and nutrition information center**

website run by the U.S. Department of Agriculture  
*<http://www.nal.usda.gov/fnic>*

### **Fast Food and Calories**

A unique calorie counting site that lets you select familiar food items from national fast-food restaurants  
*[http://www.chowbaby.com/10\\_2000/fastfood/fast\\_food\\_nutrition.asp](http://www.chowbaby.com/10_2000/fastfood/fast_food_nutrition.asp)*

### **Dieting Review**

An easy-to-use Web site that offers information on dozens of diets, nutrition facts, and online weight-loss tools.  
*<http://www.dieting-review.com/>*

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# Losing It

*Activity 2: Grades 5-8*

## **Healthy Choices**



### **Questions**

1. What is the likely outcome if your TDEE was greater than your caloric intake? Explain.  
**(You would lose weight because your body metabolism demands more calories than you are consuming)**
2. What is the likely outcome if you TDEE is less than your caloric intake? Explain  
**(You would gain weight because you'd be consuming more calories than you would be "burning off" through your normal metabolism.)**
3. Why is the Harris-Benedict more accurate than the initial estimate presented in step one? **(Harris-Benedict takes into consideration gender, height, weight, age and activity level.)**