

Losing It

Activity 2: Grades 5-8

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 choices

Consumed and Expended Calories

The gain or loss of weight depends upon a balance between the calories consumed and the calories expended. When the amount of consumed calories is greater than the calories needed to maintain a healthy body, then the excess is stored as fat. In contrast, if the consumed calorie amount is less than the calories needed to maintain the body, then 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 US 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 pen and pencil 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 that you consume. Organize the foods in sequence them under the meals of breakfast, lunch and diner. 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 loose 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 bit more complex in calculating, but provides a bit 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, $TDEE = 655 + (6.2 \times \text{weight}$

pounds) + (12.7 x height in inches) - (6.8 x 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 is the likely outcome if your TDEE was greater than your caloric intake? Explain.
- What is the likely outcome if your TDEE is less than your caloric intake? Explain.
- Why is the Harris-Benedict 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, individuals seem to be programmed to a general weight set point. Once an intense dieting regime 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 upon 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 let's you select familiar food items from national fastfood restaurants
http://www.chowbaby.com/10_2000/fastfood/fast_food_nutrition.asp

Dieting Review

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

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Questions

1. What is the likely outcome if your TDEE was greater than your caloric intake? Explain.
(You would lose weight since 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 since you'd be consuming more calories than "burning off" during by your normal metabolism.)
3. Why is the Harris-Benedict more accurate than the initial estimate presented in step one?