

Healthy Weight ©

<Lesson Plan>

Grade 8

H.E.L.P. for Kids 2008-2009

Teaching Messages:

1. Healthy weight varies from person to person depending on factors such as body build, including muscle and bone size.
2. Our body weight is determined by how much we eat (caloric intake) and how much we use up (caloric output).
3. Balancing calories is not enough to stay healthy - A balanced diet is essential for our health.
4. The most effective way to maintain a healthy weight is to adopt a healthy lifestyle – eat sensibly and exercise regularly.
5. Overweight or obesity is a common problem. It is often associated with overeating and inadequate physical activity. It can lead to many serious health problems such as diabetes and cardiovascular problems.
6. Most commercial weight loss programs do not work. It is important to understand the pros and cons of various weight loss programs before we adopt one.
7. Eating disorders such as anorexia nervosa, binge-eating disorder, and bulimia can lead to serious health consequences, including death, if untreated.

Equipment:

- Laptop and Projector

Materials for Activities:

- Magnetized pictures of foods and activities with calorie information

Activity 1 – Different Shapes and Sizes (15 mins)

For this activity, you will show pictures of models and athletes and ask whether they look healthy. Briefly talk about how the media portrays people who are overly thin or muscular as attractive.

1. Show Slide 2 and Slide 3 of “Healthy Weight” PowerPoint.

Show the class images of models (Slide 2) and athletes (Slide 3). Ask students to analyze these images and decide whether the people are healthy or not and whether or not it is realistic to try and look like them.

Teaching Message #1:

Healthy weight varies from person to person depending on factors such as body build, including muscle and bone size.

We talk about body weight a lot in our society, but people often do not understand what a “healthy weight” actually is. Many people think they should look like models and athletes seen in advertisements and on television, but that may not be healthy for you. We should all try for an ideal weight that is healthy for us and that fits our individual body type and frame. Healthy weight is NOT about the shape or the size of our body. Physical fitness and a healthy lifestyle lead to a healthy weight.

What does body weight really measure?

For the weight of an average person, 60% is water, 20% is fat, and the other 20% is from muscles and organs. To figure out a healthy weight, we must consider all the parts that make up the body, our *body composition*. Muscles and bones weigh more than fat. Therefore, we cannot determine if a person is healthy based on weight alone. For example, although muscle may add weight, it makes a person healthier.

What is a healthy weight? How much should we weigh to be healthy?

There are no exact numbers because everyone is different, and weight varies based on genetics, physical activity level, and personal preferences.

2. Show Slide 4 of “Healthy Weight” PowerPoint

Introduce the class to Body Mass Index and explain how it is calculated. Then, walk through an example of calculating and plotting BMI and demonstrate whether the person is at a healthy weight. If time permits, ask students to fill in the calculations for their own BMI or the BMI of a family member in their student packets and have them determine whether the person is underweight, normal weight, overweight, or obese.

There are many ways to decide if someone is at a healthy weight. The most common approximation is called the **Body Mass Index** or **BMI**.

To calculate the Body Mass Index (BMI), we first take our weight in pounds and our height in inches, and we plug them into a formula:

$$\text{Weight (lbs)} / [\text{Height (ins)}]^2 \times 703$$

In our example, a 15 year-old boy is 150lbs and 64 inches tall. When we plug in the weight and height into the formula:

$$150/64^2 \times 703 \approx 25.7 = \mathbf{26}$$

The answer is the BMI, so this boy has a BMI of 26.

Then, we take the BMI and we see where it fits in a special chart that also considers our age and our gender. This chart is used up to age 20. This graph is called the BMI-for-age percentile chart.

In our example, a 15 year-old boy with a BMI of 26 would be between the 90th and 95th percentile. We will find that our BMI, age, and gender put us in a certain percentile group.

$\geq 95^{\text{th}}$ Percentile	Overweight
85 th - 95 th Percentile	Risk of Overweight
5th - 85th Percentile	Healthy Weight
$>5^{\text{th}}$ Percentile	Underweight

How would we describe the weight of the boy in the example?
Risk of overweight to overweight.

Activity 2 – A Typical Day of a Healthy vs. Unhealthy Person (20 mins)

Teaching Message #2:

Our body weight is determined by how much we eat (caloric intake) and how much energy we use up (caloric output).

We can maintain our body weight by balancing how much energy we take into our body (i.e. what we eat and drink) with how much energy we use up. If we eat more than we use up, we gain weight. If we eat less than we use up, we lose weight.

Caloric intake describes how many calories we take in. Different types of foods give us different amounts of energy, measured as calories. If we add up the number of calories in the food we eat and drink each day, we can calculate how many calories we take in - our caloric intake. Eating a lot of food or eating foods very high in calories could make our caloric intake very high.

Experts have estimates, called **Recommended Daily Intakes** (RDIs), about how many calories different people should take in every day. How many calories you should take in depends on your age, gender, and physical activity. On average, you should consume about 2,000 calories a day.

Caloric output describes how many calories we use up. Everything we do uses energy (i.e. calories).

Even when our body appears to be resting, we are using calories. The continuous beating of our heart uses calories; breathing uses calories; even digesting food uses calories. These “resting calories” are part of a person’s **Basal Metabolic Rate** (BMR). The BMR is how our body spends energy doing necessary activities to keep us alive.

Everyone has a different BMR. Our body uses additional energy in physical activities throughout the day. Our BMR combined with the energy we use doing physical activities is our **caloric output**.

We could increase our energy/caloric output by doing more physical activities including sports, exercises, or even taking the stairs instead of the elevator. The more intense the activity, the more energy we use up. Anaerobic exercise, such as weight lifting or resistance training, increases our caloric output as well since muscles use energy more efficiently than other tissues.

For this activity, you will ask students about what a person would do and eat during a typical day. Then categorize the foods and activities into what a healthy person would do and what an unhealthy person would eat and do. Finally, add up the calories consumed and calories expended. Emphasize the points that our body weight follows a simple math formula: energy in – energy out.

1. Review nutrition and exercise by asking students what a healthy/unhealthy person would do during the day.
 - i. **Healthy Individuals:** Sleep 8-10 hours a day, eat three meals a day in good proportion of all food groups, eat fruits and vegetables, and play sports or do exercises every day.
 - ii. **Unhealthy individuals:** Sleep fewer than 7 hours or more than 10 hours a day, skip meals and eat one or two big meals, eat a big amount of chips, chocolate, candies and pastries, stay home and watch TV, drive the car everywhere.
2. After getting answers from students, use the prepared pictures to show the amount of calories consumed or expended for various foods and activities.
3. Prepare two sides on the whiteboard and label them as “Healthy Person” and “Unhealthy Person.” Then attach each food/activity under each section.
4. Ask students to calculate the calories consumed and calories expended for each section.

Teaching Message #3:

Balancing calories is not enough to stay healthy - A balanced diet is essential for our health and allows us to reach our highest potential.

Although it is important to balance our calories in order to maintain our weight, it is also critical to eat the right kind and amount of food, at the right time, to give us the nutrients we need to stay healthy.

How do we know how much of each nutrient to eat? The most important rule is to eat a wide variety of healthful foods because no one single food contains all the nutrients we need. For active young people, approximately 50-60% of total calories should come from carbohydrates, less than 15% from proteins, and less than 30% from fats.

Scientists have determined how much of each nutrient we should get in our diet each day. Food labels will give us an idea of how much of that nutrient we are getting by eating a serving of that food.

1. Show Slide 6 of “Healthy Weight” PowerPoint.

Walk the class through the process of reading a nutrition label emphasizing the importance of serving size and RDI values in helping to determine how much of a food to eat for a healthy diet.

Most foods are required to have labels showing what they contain per serving. Let’s look at this example of a food label from a box of Cheerios.

When you look at a food label, there are a few important steps you should take. First, look at the serving size and how many servings are in the food container.

If a box of cereal contains two servings per container and you eat the whole box, you are eating twice as much as what it says on the food label: twice as many calories (340 instead of 170), twice as much fat (22g instead of 11g), etc.

Then, look at the important items that are listed like calories; fat – looking especially for trans or saturated fat; carbohydrates – looking especially at how much sugar; protein; and vitamins and minerals. Look at how much of the RDI you are getting for each nutrient. If the RDI percentage is very high for fat and sugar and very low for vitamins and minerals, you know the food is not too good for you.

A **balanced diet** consists of eating three healthy meals a day (or several smaller healthy meals), and eating healthy snacks between meals. It also means balancing nutrients by eating the right amount of servings from each food group. Eating three meals a day improves our performance at school and in sports, and it can help us maintain a healthy weight. Studies show that skipping meals, especially breakfast, leads to gaining weight, poor concentration, and irritability.

What are some examples of healthy and unhealthy snacks? Where could you get healthy snacks during the day?

Healthy Snacks – non-sugary cereals like Cheerios and Wheaties; NutriGrain bars; crispy rice cakes; yogurt; veggie and fruit snacks from home like carrot and celery sticks, cherry tomatoes, grapes, apples, oranges, bananas

Unhealthy Snacks – sugary cereals like Coco Puffs or Lucky Charms, vending machine snacks, soda pop, candy, salty chips, popcorn, cookies or cakes (Twinkies, HoHos), donuts

Activity 4 – Unhealthy Weight (15 mins)

Teaching Message #4:

The most effective way to maintain a healthy weight is to adopt a healthy lifestyle – eat sensibly and exercise regularly.

When we adopt a healthy life style, we are likely to reach a weight that is healthy for us. A healthy lifestyle includes eating sensibly and exercising regularly.

For this part of the lesson, you will show pictures of grossly overweight or grossly underweight persons and ask whether they look healthy. Then, compare these images to that of a person who is at a healthy weight.

1. Show Slide 7 and Slide 8 of “Healthy Weight” PowerPoint.

Ask students if they think the sumo wrestler on Slide 7 looks at a healthy weight. Explain that he is in fact overweight and compare the image to that of a person at a healthy weight on Slide 8.

Teaching Message #5:

Overweight or obesity is a common problem. It is often associated with overeating, inadequate physical activity, and sleep deprivation. It can lead to many serious health problems such as diabetes and cardiovascular problems.

Teenage obesity is a serious health problem. Teenagers are now suffering from illnesses that are normally associated with older adults, such as Type II Diabetes.

People who are overweight or obese die younger from a number of causes. They are more likely to develop diabetes, high blood pressure, heart problems, and other illnesses. Obesity is considered by many to be the #1 public health problem in the United States.

Why do people become overweight or obese?

There are no simple answers. Genetics and environment both play a role. Genetic factors include BMR and the way people respond to the stimulation of food. *Overeating, lack of physical activity, and not enough sleep* are some important causes of overweight and obesity.

Not getting enough physical activity is an important cause of overweight and obesity. For example, teenagers who spend a lot of time watching television and playing video games instead of doing something active are at risk for becoming overweight because they are not using up enough energy.

Not sleeping enough is also associated with weight gain. Not sleeping enough makes people tired and less likely to be physically active. It also changes our body chemistry to make us want to eat more.

Overeating, or eating too much, is common when we are with a group of friends, when we are served big portions, when the food tastes really good, or when we feel excited or tired. Fast-food restaurants, sugary cereals, and high-fat snacks all contribute to Americans becoming overweight or obese. Also, some of us overeat because we are stressed out, bored, depressed, or feeling insecure. Our mood can affect the choices we make about eating, so taking care of our emotions plays an important role in helping us eat the right amount of food.

Teaching Message #6:

Most commercial weight loss programs do not work. It is important to understand the pros and cons of various weight loss programs before we adopt one.

Many teenagers are self-conscious about their changing body and may be unhappy with their body shape even though it is healthy. Often, teenagers try diets and weight loss programs that are not useful and may be harmful.

Teenagers who go on fad diets and commercial weight loss programs usually do not get enough of the nutrients and energy they need for growth and development – and they usually end up gaining weight. Other possible effects of these diets include difficulty concentrating, sleep problems, muscle wasting, skin problems, poor hair and nail growth, and poor bone formation.

If you need to lose weight, the best way to lose weight is to eat a balanced diet and get enough exercise every day.

What are some healthy ways to reduce the calories in our diet?

- Cut the fat off meat, and remove the skin from chicken.
- Drink skim or low-fat milk.
- Eat low-fat foods in general.
- Avoid fried foods, like chips and French Fries.
- Avoid sodas and other sugary drinks.

2. Show Slide 9 and Slide 10 of “Healthy Weight” PowerPoint.

Ask students if they think the woman suffering from anorexia on Slide 9 looks at a healthy weight. Explain that she is in fact underweight and compare the image to that of a person at a healthy weight on Slide 10.

Teaching Message #6:

Eating disorders such as anorexia nervosa, binge-eating disorder, and bulimia can lead to serious health consequences, including death, if untreated.

Eating disorders occur when people become obsessed with thoughts of food and weight. They are common among teenagers, especially girls.

When thoughts and behaviors about food hurt friendships and relationships and make people feel like they have to keep secrets about how they eat, it is likely the sign of an eating disorder.

Eating disorders lead to serious health problems including losing hair, extreme tiredness, problems with concentration, joint pain, constant stomach pain, loss of periods (reduced ability to have babies), depression, anxiety, heart conditions, kidney failure, not having enough body fat to keep organs and other body parts healthy, malnutrition, and even death.

Anorexia nervosa is a condition in which sufferers intentionally starve themselves to become thin. They often reach their goals by not eating enough food, exercising too much, or taking drugs to lose weight.

Bulimia involves bingeing and purging. A binge usually involves eating massive amounts of food. Purging immediately follows binge eating. Purging is how bulimics try to get rid of the food they have eaten. Purging could involve vomiting, laxative abuse, or excessive exercise.

Binge Eating Disorder occurs when a person regularly eats excessive amounts of food (at least three times a week) without purging.

If you or someone you care about has an eating disorder, it is important to get help quickly because the sooner you get help, the more likely you are to get better.

What Do You Think Causes Eating Disorders?

There are many factors that can lead to an eating disorder. The pressure we feel from images we see in the media or from friends and family, feeling bad about ourselves and how we look, and feeling depressed or stressed all can lead to developing eating disorders. Often, the sufferers feel that their life is out of control. They develop eating disorders as a way to take control of their life.

Television, movies, advertisements, magazines, music videos, and much more send unhealthy messages about body image. We must take control of our own body image by recognizing how harmful those messages are and learning to appreciate our own bodies.