

## A Healthy Lifestyle: Food

Month: Feb.

Week #: 21

Day: a. Mon. Time: 30. min.

# Body Mass Index

Life Tree Learning Systems ©

### Objectives/Aims

The students will: come to value exercise as a way to maintain physical and mental well-being; calculate their Body Mass Index.

### Materials

scale, measuring stick

### Illustration

Are you at a healthy weight for your height? This is an important question that the Body Mass Index helps answer.

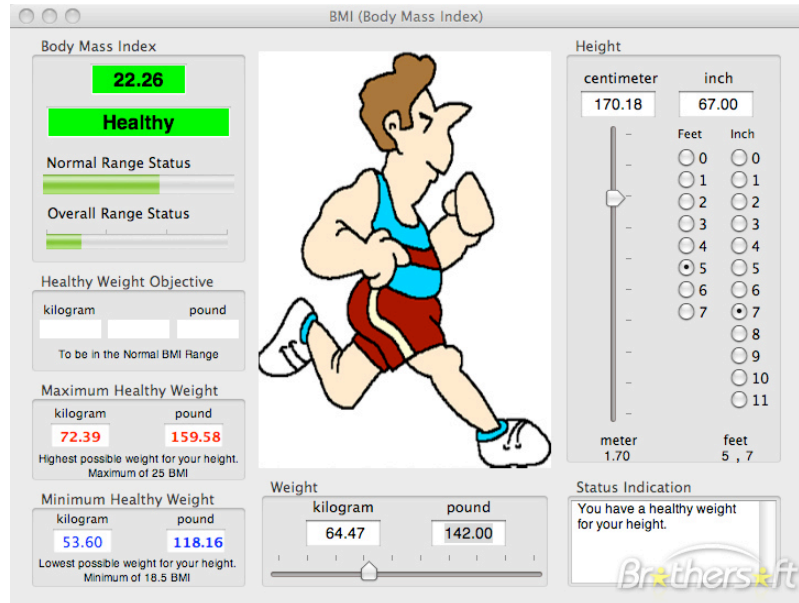
### Background

“The President's Challenge physical fitness program has recently added the calculation of **Body Mass Index (BMI)** as a means of assisting parents and teachers in the early detection of body weight problems that may jeopardize the health of children and youth. Obesity in youngsters (as well as adults) is an increasingly serious health problem in the United States. On the other end of the weight spectrum, but also of concern, are certain eating disorders such as anorexia and bulimia which can lead to life-threatening thinness. While seen much less frequently than obesity, such conditions have become increasingly common in recent years, particularly among girls. Because body weight can be a sensitive personal issue, the collection and interpretation of all data must adhere to strict rules of confidentiality.

BMI is one means of providing a *general estimate* of body fatness. Although there are several more precise ways of measuring one's body fat percentage, this method is used because it requires no special equipment or training in technical procedures. All that is needed is accurate determination of height (in meters) and weight (in kilograms).

$$\text{BMI} = \text{wt}/\text{ht} \text{ (height squared)}$$

BMI scores must be interpreted with caution. There is great variability in the growth and development patterns of children, particularly during pubertal years. Significant variation from average skeletal frame size or muscularity, for example, may produce BMI ratios that are misleading. For this reason it is intended that Body Mass Index should be used as a *screening test only*. Any BMI score falling outside if the recommended range requires further examination before any final decision can be made about whether a health risk may exist.”



### **Group Activity**

1. Read the 'Background' information above, and answer any questions that the students have about it. Tell them that the results of the calculation will be private; something to share with their parents. In addition, emphasize that one's body size or weight does not make a person good or bad; it's their character that determines what kind of person they are. Ask the students how they would want to be treated if they had a weight problem. (In our culture it is still often considered acceptable to tell 'fat' jokes and tease people that are over weight. This is a form of prejudice and is unacceptable.)
2. Measure and weigh those students that don't know these facts. Tell the results only to the student.
3. On the board, go through an example of how to calculate their BMI. This is only appropriate for older students that know how to do the following calculations. For younger students (if you have a link to the net) go to: [http://www.bariatricedge.com/dtcf/pages/bmi\\_calculator.htm?WT.srch=1](http://www.bariatricedge.com/dtcf/pages/bmi_calculator.htm?WT.srch=1), which will automatically calculate BMI You can also go to <http://www.brothersoft.com/bmi-body-mass-index-210065.html> for a free BMI calculator.

### **Determine total body weight (kilograms) and height (meters). Use formula to convert to BMI:**

- A) Convert weight to Kilograms (kg)  
2.2 lbs = 1 kg
  - B) Convert height to meters (m)  
1 inch = .0254m
  - C) Square height ( $m^2$ )  
height x height
  - D) Divide your weight by your height (m squared)  
w(kg) divided by h(m squared) or the results of step A divided by the results of step c
4. Write on the board the normative BMI range for their age (See "Computer Generated: Full Page: Picture").
  5. Send a note home to parents giving the results of the calculations and an explanation of the BMI. Encourage them to see a health professional if their child's BMI is outside the normative range.

### **Group Discussion Questions**

1. What are some of the health problems associated with being overweight?  
A: It's harder on you joints, makes your heart work harder and can promote heart disease, lead to diabetes, etc.
2. What are some of the health problems associated with being underweight?  
A: Loss of energy, muscles are weaker, etc.
3. Does your body weight or size make you a good or bad person?  
A: No.

### **Variations/Extensions**

1. If you feel this is too sensitive a subject to broach in class, make an assignment to do these calculations at home with their parents.

### **Conclusion**

Say, "Being the right weight for your size is important. If you are not the right weight for your size, it can adversely affect your health and also get in the way of living a happy, fulfilled life."

### A Healthy Lifestyle: Food: Body Mass Index

BMI (Body Mass Index)

#### Body Mass Index

**22.26**

**Healthy**

Normal Range Status

Overall Range Status

#### Healthy Weight Objective

kilogram      pound

To be in the Normal BMI Range

#### Maximum Healthy Weight

kilogram      pound

**72.39**      **159.58**


Highest possible weight for your height.  
Maximum of 25 BMI

#### Minimum Healthy Weight

kilogram      pound

**53.60**      **118.16**

Lowest possible weight for your height.  
Minimum of 18.5 BMI



#### Height

centimeter      inch

170.18      67.00

meter      feet

1.70      5 , 7

Feet      Inch

0       0

1       1

2       2

3       3

4       4

5       5

6       6

7       7

8

9

10

11


#### Weight

kilogram      pound

64.47      142.00

#### Status Indication

You have a healthy weight for your height.



**Are you at a healthy weight for your height?**

**This is an important question that the Body Mass Index helps answer.**

# A Healthy Lifestyle: Food

## Objectives/Aims

By the end of this unit, your child will come to value exercise as a way to maintain physical and mental well-being; calculate their Body Mass Index and be able to explain the Food Pyramid and apply it to their diet and eating habits.

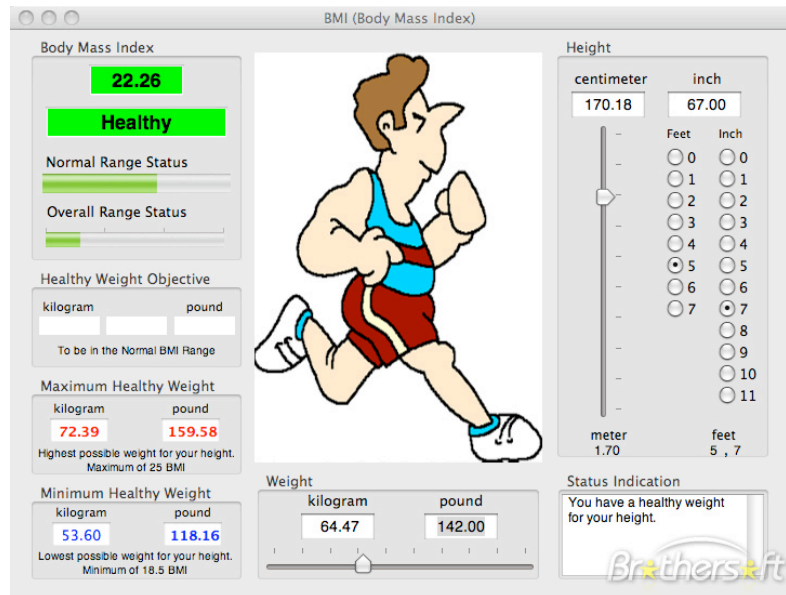
## Background Information for Parents

“The President’s Challenge physical fitness program has recently added the calculation of **Body Mass Index (BMI)** as a means of assisting parents and teachers in the early detection of body weight problems that may jeopardize the health of children and youth. Obesity in youngsters (as well as adults) is an increasingly serious health problem in the United States. On the other end of the weight spectrum, but also of concern, are certain eating disorders such as anorexia and bulimia which can lead to life-threatening thinness. While seen much less frequently than obesity, such conditions have become increasingly common in recent years, particularly among girls. Because body weight can be a sensitive personal issue, the collection and interpretation of all data must adhere to strict rules of confidentiality.

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The President’s Challenge



## Day 1

1. With your parent’s help, go to [www.brothersoft.com/bmi-body-mass-index-210065.html](http://www.brothersoft.com/bmi-body-mass-index-210065.html) for a free BMI calculator for Macs, or [www.whathealth.com/bmicalc/](http://www.whathealth.com/bmicalc/) for PCs. Use the calculator to calculate your BMI. If your BMI is not in the healthy range, discuss with your parents what can be done to solve this problem. A checkup by your pediatrician may be in order.

P.I. \_\_\_\_\_



## Body Mass Index

### The Health Fitness Award

|              | Age | Partial<br>Curl-ups (#) | 1 Mile Run<br>(min:sec) | OR<br>Distance Option |                     | V-Sit<br>Reach<br>(in) | OR<br>Sit &<br>Reach<br>(cm) | Rt.<br>Angle<br>Push-ups<br>(#) | OR Pull-<br>ups<br>(#) | BMI<br>(range) |
|--------------|-----|-------------------------|-------------------------|-----------------------|---------------------|------------------------|------------------------------|---------------------------------|------------------------|----------------|
|              |     |                         |                         | (min:sec)<br>1/4 mi   | (min:sec)<br>1/2 mi |                        |                              |                                 |                        |                |
| <b>BOYS</b>  | 6   | 12                      | 13:00                   | 2:30                  |                     | 1                      | 21                           | 3                               | 1                      | 13.3 - 19.5    |
|              | 7   | 12                      | 12:00                   | 2:20                  |                     | 1                      | 21                           | 4                               | 1                      | 13.3 - 19.5    |
|              | 8   | 15                      | 11:00                   |                       | 4:45                | 1                      | 21                           | 5                               | 1                      | 13.4 - 20.5    |
|              | 9   | 15                      | 10:00                   |                       | 4:35                | 1                      | 21                           | 6                               | 1                      | 13.7 - 21.4    |
|              | 10  | 20                      | 9:30                    |                       |                     | 1                      | 21                           | 7                               | 1                      | 14.0 - 22.5    |
|              | 11  | 20                      | 9:00                    |                       |                     | 1                      | 21                           | 8                               | 2                      | 14.0 - 23.7    |
|              | 12  | 20                      | 9:00                    |                       |                     | 1                      | 21                           | 9                               | 2                      | 14.8 - 24.1    |
|              | 13  | 25                      | 8:00                    |                       |                     | 1                      | 21                           | 10                              | 2                      | 15.4 - 24.7    |
|              | 14  | 25                      | 8:00                    |                       |                     | 1                      | 21                           | 12                              | 3                      | 16.1 - 25.4    |
|              | 15  | 30                      | 7:30                    |                       |                     | 1                      | 21                           | 14                              | 4                      | 16.6 - 26.4    |
|              | 16  | 30                      | 7:30                    |                       |                     | 1                      | 21                           | 16                              | 5                      | 17.2 - 26.8    |
| 17           | 30  | 7:30                    |                         |                       | 1                   | 21                     | 18                           | 6                               | 17.7 - 27.5            |                |
| <b>GIRLS</b> | 6   | 12                      | 13:00                   | 2:50                  |                     | 2                      | 23                           | 3                               | 1                      | 13.1 - 19.6    |
|              | 7   | 12                      | 12:00                   | 1:40                  |                     | 2                      | 23                           | 4                               | 1                      | 13.1 - 19.6    |
|              | 8   | 15                      | 11:00                   |                       | 5:35                | 2                      | 23                           | 5                               | 1                      | 13.2 - 20.7    |
|              | 9   | 15                      | 10:00                   |                       | 5:25                | 2                      | 23                           | 6                               | 1                      | 13.5 - 21.4    |
|              | 10  | 20                      | 10:00                   |                       |                     | 2                      | 23                           | 7                               | 1                      | 13.8 - 22.5    |
|              | 11  | 20                      | 10:00                   |                       |                     | 2                      | 23                           | 7                               | 1                      | 14.1 - 23.2    |
|              | 12  | 20                      | 10:30                   |                       |                     | 2                      | 23                           | 8                               | 1                      | 14.7 - 24.2    |
|              | 13  | 25                      | 10:30                   |                       |                     | 3                      | 25                           | 7                               | 1                      | 15.5 - 25.3    |
|              | 14  | 25                      | 10:30                   |                       |                     | 3                      | 25                           | 7                               | 1                      | 16.2 - 25.3    |
|              | 15  | 30                      | 10:00                   |                       |                     | 3                      | 25                           | 7                               | 1                      | 16.6 - 26.5    |
|              | 16  | 30                      | 10:00                   |                       |                     | 3                      | 25                           | 7                               | 1                      | 16.8 - 26.5    |
| 17           | 30  | 10:00                   |                         |                       | 3                   | 25                     | 7                            | 1                               | 17.1 - 26.9            |                |