Student Resource 9.5

Stations: Online Obesity

Student Names:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_

Directions: Follow the directions on this resource to complete the activities for each station your teacher has set up.

Station 1: Calculating BMI

The medical standard for determining if a person is obese is to measure the person’s body mass index (BMI). It’s a measurement of body fat based on height and weight. The criteria used to measure obesity in children and teens is different from the criteria used for adults. In this exercise, you will first learn to measure the BMI of adults and then you will use an online calculator to measure the BMI of teens.

**BMI Categories for Adults**

Underweight: less than 18.5

Normal weight: 18.5–24.9

Overweight: 25–29.9

Obese: 30 or greater

**How to Measure BMI for Adults**

1. Divide weight in pounds (lbs.) by height in inches squared.

2. Multiply by a conversion factor of 703.

Here’s an example:

* Weight = 150 lbs.
* Height = 5'5" (65")
* Calculation: [150 / 652] x 703 = 24.96

With a BMI of 24.96, this person has normal weight.

**Calculate the BMI for the following adults. You may use a calculator. Record your answers in the space provided below.**

* A woman who weighs 125 lbs. and is 5'2"

BMI:

Is the woman underweight, normal weight, overweight, or obese?

* A man who weighs 296 lbs. and is 5'11"

BMI:

Is the man underweight, normal weight, overweight, or obese?

**Calculating BMI for Teens**

Go to the BMI percentile calculator for teens and children on this page: <http://apps.nccd.cdc.gov/dnpabmi/>. Use the information below to determine if this teen is overweight or obese. Use today’s date for the date of measurement. One measurement the calculator will give you is a percentile. The percentile shows how the teen’s weight compares with other teens of the same age and sex. For example, if the percentile is 23%, that means that the teen’s weight is greater than 23% of other teens of the same age and sex. Record your answers in the space provided below.

Sex: Female

Date of birth: May 2, 1998

Height: 5'4"

Weight: 140 lbs.

BMI:

Percentile:

Is the teen underweight, normal weight, overweight, or obese?

Station 2: Tracking Obesity

Is it true that the prevalence of obesity has skyrocketed over the past 25 years? Follow the instructions below to create graphs that track obesity and give you a visual answer to this question.

1. Go to “Overweight and Obesity” at <http://www.cdc.gov/obesity/data/trends.html>. Scroll down to the interactive map “The History of State Obesity Prevalence.” The map shows how the percentage of obese adults has changed between 1985 and 2010 in each state.
2. Find your state on the map. Then use the “previous” and “next” buttons at the top of the map to look at what the percentage of obese adults in your state was for the following years: 1985, 1990, 1995, 2000, 2005, and 2010. Take note of the percentages below:

|  |  |
| --- | --- |
| 1985:1990:1995: | 2000:2005:2010: |

1. Choose another state, and repeat the exercise you did in Step 2.

|  |  |
| --- | --- |
| 1985:1990:1995: | 2000:2005:2010: |

1. Now fill in the bar graph below to show how the percentage of obese adults in your state and the other state you collected data for has changed between 1985 and 2010. Use different colors of ink to distinguish between the two states, and fill in the legend with the color you use for each state.

Station 3: Obesity around the Globe

Obesity is not a problem in the United States alone. Mexico and the United Kingdom have obesity rates that are also dangerously high. Study the map on this web page to get an idea of obesity around the world: <http://tiny.cc/Global_WHO_Obesity>. The map shows the estimated overweight and obesity prevalence in males aged 15 and older in 2010. Use the map to answer the questions below.

1. Which continent has the highest prevalence of obesity?
2. What is the prevalence for India?
3. What is the prevalence for the United States?
4. Name two countries where the prevalence is less than 20%.
5. Name one where the prevalence is equal to or greater than 80%.