



Distance Learning Program

You Are What You Eat: Teen Nutrition

Description:

A Registered Dietician will provide teens with ideas and information for making positive health changes. Exercise and healthy food choices will be emphasized. 5 A Day, the DASH Diet, and the new US government food pyramid will be discussed. Health risks associated with obesity will also be discussed.

Pre-Program Activity Suggestions:

- Activity: Have each student weigh and measure themselves at home so that they calculate their body Mass Index
- Download the BMI-Boys 2-20 chart and the BMI-Girls 2-20 and copy for each of the students in the class.
- Download: DASH Diet handout
- Download: Food Record
- Download: My Pyramid worksheet
- Download a copy of the new government food pyramid Mypyramidgov

Program objectives

After participation in this program, the students will:

1. Be able to calculate BMI (Body Mass Index)
2. Recognize the health risks associated with obesity including cardiac-heart disease, diabetes, high blood pressure (hypertension), stroke, structural problems with carrying extra weight, cancer.
3. Identify the norms for heart rate, blood pressure (diastolic and systolic) and cholesterol.
4. Identify at least 4 ways to reduce risks.
5. Identify the components of the DASH diet.
6. Identify physical activities to maintain cardiac health
7. Make healthful food choices in real-life settings
8. Use the food guide pyramid and nutrition fact labels as tools for making healthy food choices
9. Increase the amounts of fruits, vegetables, whole grains and calcium-rich products they consume.
10. Watch portion size

National Science Education Standards:

HEALTH

NPH-H.K-5.5 USING COMMUNICATION SKILLS TO PROMOTE HEALTH

Students will demonstrate the ability to use interpersonal communication skills to enhance health.

NPH-H.K-5.1 HEALTH PROMOTION AND DISEASE PREVENTION

Students will comprehend concepts related to health promotion and disease prevention.

NPH-H.K-5.2 HEALTH INFORMATION, PRODUCTS AND SERVICES

Students will identify characteristics of valid health information and health-promoting products and services.

SCIENCE

NS.K-5.6 PERSONAL AND SOCIAL PERSPECTIVES

As a result of activities in grades K-4, all students should develop understanding of personal health.

Missouri Show Me Standards

Goal 4

Students will acquire the knowledge and skills to make decisions and act as responsible members of society.

7. Identify and apply practices that preserve and enhance the safety and health of self and others

Health/Physical Education knowledge

2. Principles and practices of physical and mental health (such as personal health habits, nutrition, stress management)

3. Diseases and methods for prevention, treatment, and control

5. Methods used to assess health, reduce risk factors, and avoid high-risk behaviors (such as violence, tobacco, alcohol and other drug use)

Activities:

➤ **Calculate BMI**

Have students visit this website and fill in their height and weight to calculate their BMI quickly.

<http://www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm>

To calculate manually:

<http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-adult-formula.htm>

In English Units:

$$\text{BMI} = \left(\frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

In Metric Units:

$$\text{BMI} = \frac{\text{Weight in Kilograms}}{(\text{Height in Meters}) \times (\text{Height in Meters})} \quad \text{or} \quad \text{BMI} = \left(\frac{\text{Weight in Kilograms}}{(\text{Height in centimeters}) \times (\text{Height in centimeters})} \right) \times 10,000$$

Once they have determined their BMI, then tell them to plot their BMI on either the CDC Growth Chart (either for girls or boys ages 2-20) determine if they are underweight, normal weight, at risk overweight, or overweight.

Each of the CDC BMI-for-age gender specific charts contains a series of curved lines indicating specific percentiles. Healthcare professionals use the following established percentile cutoff points to identify underweight and overweight in children.

Underweight	BMI-for-age < 5th percentile
Normal	BMI-for-age 5th percentile to < 85th percentile
At risk of overweight	BMI-for-age 85th percentile to < 95th percentile
Overweight	BMI-for-age ≥ 95th percentile

FOR ADULTS:

Underweight <18.5 BMI

Normal weight 18.5-24.9 BMI

Overweight = 25–29.9 BMI

Obesity = 30-39.9 BMI

Extreme Obesity ≥ 40 BMI

Cholesterol Guidelines:

ATP III Classification of LDL, Total, and HDL Cholesterol	
LDL Cholesterol	
<100 mg/dl	Optimal Level
100-129 mg/dl	Near Optimal/Above Optimal
130-159 mg/dl	Borderline High
160-189 mg/dl	High
≥ 190 mg/dl	Very High
Total Cholesterol	
<200 mg/dl	Desirable
200-239 mg/dl	Borderline High
>240 mg/dl	High
HDL Cholesterol	
<40 mg/dl	Low
≥60 mg/dl	High

Blood Pressure Guidelines:

Classification	Systolic	Diastolic
Normal	<120 mg/dl	<80 mg/dl
Pre-Hypertension	120-139 mg/dl	80-89 mg/dl
Stage 1 Hypertension	140-159 mg/dl	90-99 mg/dl
Stage 2 Hypertension	>160 mg/dl	>100 mg/dl

Vocabulary/ Glossary

5 A Day for Better Health program - Is a national program to encourage all Americans to eat 5-9 servings of fruits and vegetables every day for good health

Blood pressure- The pressure exerted by the blood against the walls of the blood vessels, especially the arteries

BMI- Body Mass Index – BMI stands for **B**ody **M**ass **I**ndex. It is a number that shows body weight adjusted for height

In English Units:

$$\text{BMI} = \left(\frac{\text{Weight in Pounds}}{(\text{Height in inches})^2} \right) \times 703$$

Diastolic Blood Pressure: it represents the pressure in the arteries when the heart is at rest.

HDL- the HDL cholesterol is a test that measures the amount of high-density lipoprotein (HDL) [cholesterol](#) in serum.

HDL cholesterol is known as the "good" cholesterol because a high level of it seems to protect against heart attack. (Low HDL cholesterol levels [less than 40 mg/dL] increase the risk for heart disease.)

LDL- A high LDL level (more than 160 mg/dL or 130 mg/dL or above if you have two or more risk factors for cardiovascular disease) reflects an increased risk of heart disease. That's why LDL cholesterol is often called "bad" cholesterol.

Stroke- A stroke occurs when a blood vessel that brings oxygen and nutrients to the brain bursts or is clogged by a blood clot or some other mass. Because of this rupture or blockage, part of the brain doesn't get the blood and oxygen it needs. Deprived of oxygen, nerve cells in the affected area of the brain can't work and die within minutes. And when nerve cells can't work, the part of the body they control can't work either. The devastating effects of a severe stroke are often permanent because dead brain cells aren't replaced.

There are two main types of stroke. One (**ischemic stroke**) is caused by blockage of a blood vessel; the other (**hemorrhagic stroke**) is caused by bleeding. Bleeding strokes have a much higher fatality rate than strokes caused by clots.

Systolic Blood Pressure: first number is the systolic blood pressure reading, and it represents the maximum pressure exerted when the heart contracts

Related Websites:

5 A Day

<http://www.fns.usda.gov/tn/Educators/index.htm>

<http://www.nutritionexplorations.org/educators/lessons-main.asp>

http://www.dole5aday.com/Teachers/T_Index.jsp

<http://www.nutritionforkids.com/>

<http://dairyCouncilofca.org/edu/index.html>

<http://www.leafy-greens.org/lessonplans.html>

BMI

<http://www.cdc.gov/nccdphp/dnpa/bmi/calc-bmi.htm>

HDL and LDL Cholesterol

<http://www.americanheart.org/presenter.jhtml?identifier=180>

My Pyramid.com

<http://www.mypyramid.gov/>

<http://www.mypyramid.gov/professionals/index.html>

MY PYRAMID TRACKER

<http://www.mypyramidtracker.gov/>

Post-Program Activity Suggestions:

- Review Fad diets – South Beach, Atkins and see how they compare to five a day and food pyramid.
- Compare the DASH diet to mypyramid.gov . Does the DASH diet to reduce high blood pressure follow the new government food pyramid ? Explain.
- Show students the PowerPoint – My Pyramid Point to Point . Download it from <http://www.mypyramid.gov/professionals/index.html>
- Have students set up an account and log into My Pyramid Tracker and enter what they eat for one week and the amount of exercise they get. Have their eating habits and exercise patterns changed after one week? Did they follow the guidelines?
- Have students make up a list of possible forms of exercise (walk, run, ride a bike, swim, jump rope, play ball, dance, mow grass, etc.) and chart how many of these they engage in each week. (Give incentives for those who exercise the most)
- Have students keep track of the times during the week when they are sedentary (not related to school work). Examples might be watching TV, playing on the computer, video games.