



Instructor's Guide

Healthy Eating: A Guide to Nutrition **Basic Nutrition**

Introduction

This guide provides information to help you get the most out of *Healthy Eating: Basic Nutrition*. The contents of this guide will allow you to prepare your students before using the program, and to present follow-up activities to reinforce the program's key learning points.

What exactly is nutrition and why is it important? This program reviews the study of nutrition and specific nutritional information. After viewing, students will have a strong grasp on the effects of various nutrients on the body, and why consuming them is so important for good health and performance. What foods are healthy? What dietary choices are best? How exactly do different nutrients affect different parts of our body? What happens when we do not consume all the nutrients we need? Viewers of this program will answer these questions with confidence and understanding.

Learning Objectives

After viewing the program, students will be able to:

- Explain nutrition and the nutrients our bodies need, and why
- Define carbohydrates, fiber, lipids, proteins, vitamins, and minerals, and provide examples of each
- Describe the impact of different nutrients on the body
- Understand the effects of not consuming enough nutrients
- Describe how to make healthy dietary choices

Program Overview

Knowing what to eat and put into your body doesn't just help you avoid disease — good food choices can help you feel better and healthier, give you more energy, improve your physical and emotional performance, and enhance your appearance. After watching this video, students will have a basic understanding of what 'nutrition' means and why making effective nutritional choices is so critical to health and well-being. Students will also be prepared to actually make these positive choices, as the video informs them of the different types of nutrients and how exactly to consume a good balance of them in a daily diet. Consumption of carbohydrates, proteins, lipids, fiber, water, and vitamins and minerals affects how we feel, how we perform, and how our body functions. This program provides students with the tools and knowledge to navigate food choices and make decisions with the most nutritional impact.

Main Topics

Topic 1: What is Nutrition?

This section of the program defines nutrition, describes the effects of nutrients on the body, and introduces the six different nutrients the rest of the video will explore in more depth.

Topic 2: Carbohydrates

Here the program reviews carbohydrates, giving food examples, explaining the effect of carbohydrates on the workings of the body, and describing how to make the most effective choices in consuming them.

Topic 3: Fiber

Here the program reviews fiber, giving food examples, explaining the effect of fiber on the workings of the body, and describing how to make the most effective choices in consuming it.

Topic 4: Lipids

Here the program reviews lipids, giving food examples, explaining the effect of lipids on the workings of the body, and describing how to make the most effective choices in consuming them.

Topic 5: Protein

Here the program reviews protein, giving examples, explaining the effect of protein on the workings of the body, and describing how to make the most effective choices in consuming it.

Topic 6: Water

In this section, the video reviews the critical importance of consuming water — after all, we can survive for weeks without food, but only for a few days without water.

Topic 7: Vitamins and Minerals

There are a considerable amount of vitamins and minerals present in food, and each plays an important role in the effective functioning of the body. In this section, viewers review the specific impact of various vitamins and minerals.

Topic 8: Choosing a Healthy Diet

So we now know why we should choose a healthy diet, but how exactly do we go about doing so? This section reviews how to make the most effective food choices.

Fast Facts

- Nutrients perform three basic functions: they provide energy to keep our bodies running; they form the structure of our muscles, bones, and organs; and they regulate body functions.
- There are six types of nutrients: carbohydrates, lipids, proteins, water, vitamins, and minerals.
- Fiber is the component of carbohydrates that does not break down. The body does not contain enzymes that can break it into its small components to use for energy.
- Most of the lipids in our food and bodies are called triglycerides, which each consist of three fatty acid molecules and a glycerol molecule.
- Protein is the body's main source of amino acids and the only nutrient that actually has nitrogen, which is required for cell walls tissue formation.
- Cholesterol is found in animal products such as meat, butter, and cheese. While cholesterol performs important functions in the body, too much of it may lead to heart disease and stroke.
- Vitamin C keeps tendons, ligaments, and other connective tissues healthy. Vitamin D is important to the absorption of calcium.
- Minerals are inorganic elements that are needed to provide a number of critical roles in the body. Major minerals include sodium, potassium, chloride, calcium, phosphorus, magnesium, and sulfur.
- Calcium is needed to build strong bones and teeth, and it's also used by the body for blood clotting, to transmit nerve impulses, for muscle contractions, and in metabolism.
- The best diets contain a variety of foods, ensuring that we get all the nutrients needed to stay healthy.

Vocabulary Terms

antioxidants: Substances found in fruits and vegetables that can protect our cells from damage caused by reactive oxygen molecules called free radicals.

ATP: Adenosine Triphosphate. The form of energy that cells can use.

electrolytes: Substances that help maintain the body's fluid balance.

enrichment: Process of adding back nutrients into foods that lost them during processing. Could also indicate adding nutrients to a food that never contained them to start.

hydrogenation: Process by which trans fats are formed. Hydrogenation transforms liquid unsaturated fats into more shelf-stable and solid types of fats.

lipids: Fats, a good source of energy. Lipids have important functions in the body, but too much fat in our diets can lead to weight gain and health problems such as high cholesterol.

micronutrients: Vitamins and minerals. Referred to as micronutrients because the body only requires them in small amounts.

monosaccharide: The basic unit, or molecule, of a carbohydrate. The most important monosaccharide is glucose.

nutrient density: Measure of how many nutrients a food has per 100 calories. Ideally, we should aim to eat nutrient-dense foods.

nutrition: The process involving the intake of nutrients, and how they work inside the body.

polysaccharide: Substance formed when many sugar molecules link together. Examples include starch, fiber, and glycogen.

Pre-Program Discussion Questions

1. How would you define nutrition? What are the most important foods to consume on a daily basis?
2. Is it important to make healthy food choices every single day? Why or why not?
3. What beverages do you drink during the day? What are your favorite drinks to consume? Why?
4. If you were planning your ideal food day, what would be on the menu?

Post-Program Discussion Questions

1. What foods do you currently eat that provide carbohydrates, fiber, and protein?
2. After viewing this video, are you thinking about making changes to your personal food choices? Why or why not?
3. Do you think you are missing any key nutrients from your diet right now? If so, what changes might you make?
4. What effects might dieting or restricting your food intake have on the consumption of needed nutrients?
5. What healthy nutritional choices come most easily to you? Which are more difficult? Why?

Student Projects

- Identify four examples of each of the following: carbohydrates, lipids, proteins, vitamins, and minerals. With the list you develop, create a menu that allows you to consume all of your examples of nutrients over the course of three days. For example, if you list eggs, chicken, oranges, olive oil, and broccoli, your menu might include an omelet with broccoli served with orange juice, or a chicken and broccoli stir-fry prepared with olive oil.
- Carbohydrates compose a large percentage of our diets, but some carbs are more nutritious than others. This program discusses the concept of nutrient density, referring to the amount of nutrients a food contains per 100 calories. Research and list six of the most nutrient-dense carbohydrates, as well as six of the least nutrient-dense. Which do you more frequently consume? Brainstorm some ideas for adding more nutrient-dense foods to your diet.
- Lipids are an important part of a healthy diet. However, too much fat can lead to various health problems. Research cholesterol and share your findings with the class. Questions to address include: What is cholesterol? Why is some cholesterol “good” and some “bad”? How do people find out their cholesterol levels? What effect does cholesterol have on the body? If someone has unhealthy cholesterol levels, what are different ways he or she might remedy this?
- Imagine you are pursuing a significant athletic goal, such as trying out for a competitive swim team, or hoping to break a school record for weightlifting. What nutritional needs will you have as you train? How can you maximize your energy and provide your body with all of the calories and nutrients it needs to help you perform at your best? Identify a training goal, and design an eating plan that will best help you achieve it. Your plan should include types of food to eat, recipes, timing of meals and snacks, and target calories and nutritional information for each day.

Assessment Questions

- Q1:** Carbohydrates, lipids, proteins, and water are referred to as _____ because the body needs them in large quantities.
a) micronutrients b) macronutrients c) vitamins d) minerals
- Q2:** _____ is a special structural nutrient that plumps up our cells and gives them shape.
a) Lipid b) Carbohydrate c) Water d) Mineral
- Q3:** The basic unit (or molecule) of a carbohydrate is called a _____.
a) monosaccharide b) disaccharide c) polysaccharide d) glycogen
- Q4:** The largest proportion of carbohydrate in our diets comes from _____.
a) soft drinks b) oils c) vegetables d) grains
- Q5:** True or False: The process of refining food products adds nutritional value to them.
a) True b) False
- Q6:** _____ refers to the process of adding back in nutrients lost in the refining process, as well as adding nutrients that were not in the original food.
a) Cellular respiration b) Enrichment c) Nutrient density d) Roughage
- Q7:** True or False: Fat is a good source of energy.
a) True b) False
- Q8:** The main source of amino acids is _____.
a) vitamins b) minerals c) lipids d) protein
- Q9:** _____ help maintain fluid balance between cells and their environment.
a) Electrolytes b) Amino acids c) Carrots d) Lipids
- Q10:** Substances that can protect our cells from damage from reactive oxygen molecules are called _____.
a) superfoods b) fat soluble c) free radicals d) antioxidants

Assessment Questions Answer Key

Q1: Carbohydrates, lipids, proteins, and water are referred to as _____ because the body needs them in large quantities.

A1: (b) macronutrients

Feedback: Vitamins and minerals are referred to as micronutrients because the body only requires them in small amounts.

Q2: _____ is a special structural nutrient that plumps up our cells and gives them shape.

A2: (c) Water

Feedback: Nutrients all provide structure to the body in different ways. For instance, protein forms our tendons and muscles, and minerals harden our bones and give us structural shape.

Q3: The basic unit (or molecule) of a carbohydrate is called a _____.

A3: (a) monosaccharide

Feedback: Glucose is the most important monosaccharide — it travels through the bloodstream and is the source of energy for cells.

Q4: The largest proportion of carbohydrate in our diets comes from _____.

A4: (d) grains

Feedback: The grains we eat are often highly processed, stripped of their nutritious outer hull to create products such as white bread, non-whole wheat pasta, and white rice. Choose 100% whole grain products as often as possible.

Q5: True or False: The process of refining food products adds nutritional value to them.

A5: (b) False

Feedback: The refining process actually decreases some of the nutritional value of food products by removing a layer or layers of the food that contain much of the nutrition.

Q6: _____ refers to the process of adding back in nutrients lost in the refining process, as well as adding nutrients that were not in the original food.

A6: (b) Enrichment

Feedback: An example of enrichment is adding Vitamin D to foods such as milk — it's a very important nutrient, but not commonly found naturally in the foods we eat.

Q7: True or False: Fat is a good source of energy.

A7: (a) True

Feedback: Fat plays a number of other important roles in our bodies, such as being used to make hormones, regulating blood pressure and blood clotting, and assisting in the synthesis of some micronutrients. However, too much fat in the body can have a negative effect, so it's important to limit consumption.

Q8: The main source of amino acids is _____.

A8: (d) protein

Feedback: Essential amino acids cannot be made within the body, so they need to be consumed by eating various food products.

Q9: _____ help maintain fluid balance between cells and their environment.

A9: (a) Electrolytes

Feedback: Electrolytes also help regulate the total amount of body water.

Q10: Substances that can protect our cells from damage from reactive oxygen molecules are called _____.

A10: (d) antioxidants

Feedback: Scientists have found growing evidence that some types of antioxidant compounds may slow the growth of cancer cells.