



# Nutrients

# 7

## ☑ Lesson Objectives

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### Core Content Objectives

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Students will:

- ✓ Explain the importance of vitamins and minerals to the body

### Language Arts Objectives

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The following language arts objectives are addressed in this lesson. Objectives aligning with the Common Core State Standards are noted with the corresponding standard in parentheses. Refer to the Alignment Chart for additional standards addressed in all lessons in this domain.

Students will:

- ✓ Describe the connection between nutrients and good health as described in “Nutrients” (RI.2.3)
- ✓ Interpret information from a food groups chart to explain the nutrients that can be obtained from eating from certain food groups (RI.2.7)
- ✓ Make personal connections in understanding the specific nutrients consumed at breakfast (W.2.8)
- ✓ With assistance, categorize and organize facts and information about nutrients to answer questions (W.2.8)
- ✓ Add drawings about various foods to clarify ideas, thoughts, and feelings about proper nutrition (SL.2.5)

## Core Vocabulary

**carbohydrates, n.** Substances that supply the human body with energy  
*Example:* Sugar and starch are carbohydrates found in many plant foods.


*Variation(s):* carbohydrate

**essential, adj.** Absolutely necessary; extremely important  
*Example:* Water is essential to the life of all plants and animals on Earth.  
*Variation(s):* none

**fats, n.** Substances that are essential to a healthy body in small doses  
*Example:* Butter and oils are fats that may be well hidden in some of our favorite foods.  
*Variation(s):* fat

**minerals, n.** Inorganic (nonliving) substances, small quantities of which are part of a healthy diet  
*Example:* If you eat different kinds of foods, your body will probably get all the minerals it needs.  
*Variation(s):* mineral

**proteins, n.** Substances, found in all body cells, that are essential for growth  
*Example:* Eggs and milk, both high in proteins, are a good way to start the day.  
*Variation(s):* protein

At a Glance	Exercise	Materials	Minutes
<b>Introducing the Read-Aloud</b>	What Have We Already Learned?		10
	Purpose for Listening		
<b>Presenting the Read-Aloud</b>	Nutrients		15
<b>Discussing the Read-Aloud</b>	Comprehension Questions		10
	Word Work: Essential		5
 Complete Remainder of the Lesson Later in the Day			
<b>Extensions</b>	What Did You Eat for Breakfast?	Poster 4 (Carbohydrates); Poster 5 (Proteins); Poster 6 (Fats); Poster 7 (Water); 4" by 4" sheets of paper or sticky notes, several per student; drawing tools	20
	Syntactic Awareness Activity: Adverbs		



# Nutrients

7<sub>A</sub>

## ***Introducing the Read-Aloud***

**10** minutes

### **What Have We Already Learned?**

Share the title of the read-aloud with students, and ask them what they have already learned about nutrients. What are nutrients? (substances that provide nourishment; necessary for all life) How does the body get nutrients? (contained in food and drink) How do nutrients travel through the body? (through the blood)

Students may name specific foods as nutrients; tell them that the foods themselves are not nutrients, but that different nutrients are contained in different foods.

### **Purpose for Listening**

Tell students that most of the read-aloud they hear today will be about the four main nutrients their bodies need to grow. Tell them to listen carefully to learn about two other important nutrients, and to learn about all six nutrients essential to healthy bodies.

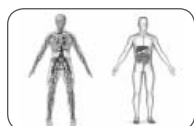


## Nutrients

### ◀ Show image 7A-1: What do you eat?

Why do you eat? Is it because certain foods taste really good to you? That's surely one reason why I eat. I cannot imagine my world without the taste of a fresh bowl of vegetable soup or a peppermint stick ice cream cone on a summer's day. You also eat because you get hungry, right? Your tummy grumbles and complains if it hasn't been fed for a long time. But what is the main reason you eat?

Ah, at last—Nick Nutri's chance to talk about my favorite topic: nutrients. You eat because you need the nutrients that food provides to stay healthy.



### ◀ Show image 7A-2: Circulatory and digestive systems

We have talked a lot about nutrients in the previous lessons. You know that your blood carries nutrients to all parts of the human body. Your digestive and excretory systems filter waste from the body and send nutrients back into the blood.<sup>1</sup> Your cells need nutrients to stay alive. Your tissues need nutrients to function properly. Your organs stop working without the right nutrients, and if your organs stop working, your body's systems might stop working, too!<sup>2</sup>

You know that nutrients are good for you. But what exactly are nutrients? Nutrients are substances that provide nourishment necessary for the growth and health of an organism. Providing the body with the nutrients it needs is an **essential**<sup>3</sup> part of staying healthy.

So, how do you get nutrients? Yes, from the food you eat. Nutritionists, like me, think of the body as a chemical factory.<sup>4</sup> Everything you eat is made up of thousands of different chemical substances. The ones that every healthy body needs to stay alive are called nutrients.

- 1 What are some of your other body systems aside from digestive and excretory? (circulatory, muscular, skeletal, and nervous systems)
- 2 What are cells? (the smallest building block of life on Earth) What is tissue? (groups of cells that perform the same jobs in living things) What are organs? (groups of different types of tissue that do a particular job for the body) What is a body system? (a collection of organs that work together for the same purpose)
- 3 or necessary
- 4 What is a factory? (a place or building where things are made)



← **Show image 7A-3: Basic nutrients**

Everyone needs four basic nutrients—water, **carbohydrates**, **proteins**, and **fats**. These nutrients come from different food sources. It is up to you to choose the right foods to supply your bodies with the proper balance of water, carbohydrates, proteins, and fats. Today I am going to teach you how to make the best food choices for maintaining a healthy body.

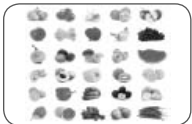


← **Show image 7A-4: A glass of water**

Let's start with the nutrient that is familiar to everybody: water. Water is perhaps the most important nutrient of all. It is necessary for all body functions.<sup>5</sup> You cannot live for more than about a week without water. Did you know that two-thirds of your body is made up of water? Water is part of your blood. It travels in and out of your cells and helps to dissolve other nutrients, carrying them to all your tissues. Water is a necessary part of the excretory system, making up most of your urine. Water helps break down your food so that solid waste can pass from your body. Water even helps maintain the right body temperature.

When given a choice of what to drink, water is always the healthiest choice you can make. It is up to you to constantly refill your body's supply of water. You need between three and six cups each day, but not all of your water needs to come from a cup.

5 What's another word for *functions*?  
(jobs or purpose)



← **Show image 7A-5: Sources of water in food**

Did you know that many foods contain lots of water, too? Grapefruit, watermelon, tomatoes, cucumber, and lettuce are all good choices. One way to tell whether you are getting enough water is to check the color of your urine. It should be practically colorless.

All nutrients supply your body with energy, but the body's main source of energy comes from carbohydrates.



← **Show image 7A-6: Carbohydrates**

Carbohydrates are found almost entirely in plant foods—fruits, vegetables, whole grains, peas, and beans. Potatoes, rice, and pasta are good choices for carbohydrates. Milk and milk products, like ice cream and yogurt, provide the body with carbohydrates and protein. Cheese has only a few carbohydrates.



← **Show image 7A-7: Protein**

Protein is a body-builder, contained in all body cells. It is necessary for your body's growth and development, building muscle and helping to repair cells. It's easy to see how cells outside the body—like hair, skin, and nails—renew themselves, isn't it? Each time we cut them, they grow right back! The body makes its own protein, but it needs help from foods. Good sources of protein include meat, fish, chicken, eggs, milk, and beans.



← **Show image 7A-8: Fats**

The fourth nutrient that your body needs is fat.<sup>6</sup> Butter, margarine, and oils are good sources of fat. Today, many people are overweight, so it may seem strange to you that I am telling you to include fat in your diet, but your body does need a certain amount of fat. Does anyone know why?

Well, for one thing, fat is necessary for the development of your brain, especially in the first few years of your life. When you looked at skin cells under a microscope, do you remember seeing the layer of fat cells? A thin layer of fat underneath your skin acts like a blanket, providing you with insulation<sup>7</sup> and warmth. Fat stores energy in your body and helps keep your skin healthy, too.

So, you see, fat is an important nutrient, but you only need very small amounts of it. Your body can make most of its building blocks from carbohydrates and proteins. After about age two, you need to be careful not to eat too much fat because that might cause you to gain too much weight.

6 What are the other three nutrients we just discussed? (water, carbohydrates, and protein)

7 or protection

- 8 What does *essential* mean?  
(necessary or important)
- 9 made from living organisms
- 10 which are nonliving substances  
found in nature

So far, you've learned that the body needs four basic nutrients to grow and stay healthy. What are they? Great—water, carbohydrates, proteins, and fats. These are not the only nutrients your body needs. There are other important nutrients that are also essential to life.<sup>8</sup> They are called vitamins<sup>9</sup> and **minerals**.<sup>10</sup> Your body needs less of them, but if you don't get enough vitamins and minerals, you can become sick.

Long ago, sailors lived on a diet of only biscuits and salty meat while they were out at sea. They began to suffer from bleeding gums, and their bones became weak. Once they added lemons and limes to their diet, the sailors became much better. Why do you think that is?



← **Show image 7A-9: Vitamins and food**

Citrus fruits, like lemons, limes, oranges, and grapefruits, gave the sailors the Vitamin C that they needed to keep their blood vessels, gums, and teeth healthy. Vitamin C also helps build tissue to fight germs. That's why your mom or dad might give you extra orange juice if you feel like you're catching a cold. If you aren't a fan of citrus fruits, broccoli and tomatoes are also good choices to make sure you are getting enough Vitamin C.



← **Show image 7A-10: Vitamin alphabet**

Letters of the alphabet, like the letter 'C,' are used for many vitamins. There's Vitamin A, Vitamin B, Vitamins C, D, and E—and so many more! Vitamin A is important for healthy skin and helps you see more clearly at night. Dairy products, carrots, and dark, leafy greens contain lots of Vitamin A. There are many different B vitamins—Vitamin B1, Vitamin B2, Vitamin B3, and so on. The B vitamins, found mostly in meat, help the body perform lots of different functions. For example, B12 helps make red blood cells. Vitamin D, found in fish and egg yolks, helps build strong bones.

Most of the vitamins you need come from vegetables, fruits, and grains. All vitamins are essential in small doses, or amounts. If you have a healthy diet, you are probably getting all the vitamins you need.



← **Show image 7A-11: Fluoride**

Fluoride is a mineral that is often added to public drinking water. It is contained in some toothpaste and mouthwash as well. This is because fluoride helps prevent tooth decay. Your body needs small amounts of different minerals, such as fluoride, to help perform specific body functions.

Besides fluoride, other minerals include calcium, sodium, and iron.



← **Show image 7A-12: Sources of minerals**

You can help your teeth and bones stay strong by eating foods rich in calcium. Milk, broccoli, and almonds are good choices. Sodium—found in table salt, bacon, and lots of soup broths—helps regulate the body’s fluids. Then again, too much salt is not good for you. It causes the body to hold onto too much fluid, which can cause high blood pressure. If you feel weak, look pale, and get tired easily, you may need more iron. Eat more red meat, whole grains, and beans. Iron helps the blood carry oxygen throughout the body and helps the body fight infections.

Each one of these minerals provides important nutrients for your body. As with vitamins, you can get most of the minerals you need by eating a healthy diet. That’s what we will talk about next time we meet—the best foods for you to eat!



### Comprehension Questions

10 minutes

1. *Literal* What are the four basic nutrients the body needs to grow? (water, carbohydrates, proteins, fats) What are two other nutrients needed by the body in lesser amounts? (vitamins and minerals)
2. *Inferential* In the read-aloud you learned that your body is two-thirds water. How much of your body then is not made up of water? (one-third, since two-thirds of the body is made up of water)
3. *Literal* Which one of the four basic nutrients supplies most of the body's energy? (carbohydrates)
4. *Literal* At what stage of life do humans need the most fats in their diets? (before the age of two)
5. *Evaluation* If your hair and nails stop growing, which essential nutrient are you most likely missing? Why? (Protein; because it helps repair cells and is responsible for new growth.)
6. *Literal* Which vitamin, supplied by citrus fruits like oranges, lemons, and limes, helps build tissue to fight germs? (Vitamin C)

[Please continue to model the *Think Pair Share* process for students, as necessary, and scaffold students in their use of the process.]

I am going to ask you a question. I will give you a minute to think about the question, and then I will ask you to turn to your neighbor and discuss the question. Finally, I will call on several of you to share what you discussed with your partner.

9. *Evaluative Think Pair Share:* Vitamin D is sometimes called “the sunshine vitamin” because sun is a better source of Vitamin D than most foods. If you apply sunblock when you go outdoors, your skin will not make Vitamin D, but the sunblock will protect you from some of the sun's harmful rays. How else do people get enough Vitamin D to build strong bones? (Answers may vary, but may include the fact that many people take vitamin supplements if they are not getting enough of one vitamin or another. Tell students that they should always discuss such matters with their family members or a doctor.)

10. After hearing today's read-aloud and questions and answers, do you have any remaining questions? [If time permits, you may wish to allow for individual, group, or class research of the text and/or other resources to answer these questions.]

### Word Work: Essential

5 minutes

1. In the read-aloud you heard, "Providing the body with the nutrients it needs is an *essential* part of staying healthy."
2. Say the word *essential* with me.
3. *Essential* means absolutely necessary.
4. When traveling by public transport, it is essential to arrive before the departure time on the transport schedule; otherwise, you will miss your ride.
5. Think of some things that are essential to our classroom. What is absolutely necessary to making our day run smoothly? Use the word *essential* when you tell us about it. [Ask two or three students. If necessary, guide and/or rephrase students' responses: "It is essential for everyone to . . ."]
6. What's the word we've been talking about?

Use a *Making Choices* activity for follow-up. Directions: I am going to name some common daily activities. If what I say is essential, or necessary, to staying healthy, say, "That's essential." If it is not essential to staying healthy, say, "That's not essential." Remember to answer in complete sentences.

1. singing songs (That's not essential.)
2. eating chocolate (That's not essential.)
3. sleeping well (That's essential.)
4. drinking water (That's essential.)
5. reading books (That's not essential.)



**Complete Remainder of the Lesson Later in the Day**



# Nutrients

7<sub>B</sub>

## Extensions

20 minutes

### What Did You Eat for Breakfast?

Focus students' attention on the four nutrients posters: Poster 4 (Carbohydrates), Poster 5 (Proteins), Poster 6 (Fats), and Poster 7 (Water). Review the four basic nutrients that everybody needs (water, carbohydrates, proteins, and fats). Tell students that they are going to draw the foods that they ate for breakfast and attach the drawings to the most appropriate chart. Tell them that some foods may contain more than one nutrient and that they must make a decision about which one is more abundant, or is the main one. Tell them to draw only one item on each square piece of paper or sticky note. For example, if they had orange juice, cereal, and milk, they would use three separate sheets of paper or sticky notes to draw their breakfasts.

Once everyone has completed the task, pair students to talk about which nutrients they consumed at breakfast (including vitamins and minerals), whether they think they made good breakfast choices, and what they need to include in their other meals today in order to get the daily nutrients they need.

### Syntactic Awareness Activity: Adverbs

**The purpose of these syntactic activities is to help students understand the direct connection between grammatical structures and the meaning of text. These syntactic activities should be used in conjunction with the complex text presented in the read-alouds.**

**Note:** There may be variations in the sentences created by your class. Allow for these variations, and restate students' sentences so that they are grammatical.

1. We know that many verbs are action words. Today we will practice using adverbs. Adverbs describe action words or verbs.

2. In the read-aloud you heard that you see more *clearly* at night when you take vitamin A.
3. What is the action word or verb? (see) What word describes the action? (*clearly*) See is an action word. *Clearly* is the adverb that is used to describe how you see at night when you take vitamin A. [Remind students that words that describe action words or how we do something are called adverbs.]
4. [Have students repeat what you say and how you say it. This first example uses the verb *speak* and the adverbs *softly*, *loudly*, *quickly*, *slowly*.] We can use adverbs to describe how we speak. Listen to how I say something, and repeat what I say and how I say it. What words, or adverbs, could we use to describe how we are speaking? (*softly*, *loudly*, etc.)
  - a. I am speaking *softly*. [Use a lowered voice when speaking this sentence.]
  - b. I am speaking *quickly*. [Use a fast pace when speaking this sentence.]
  - c. I am speaking *loudly*. [Use a loud voice when speaking this sentence.]
  - d. I am speaking *slowly*. [Use a slow pace when speaking this sentence.]
5. Now you try! First, one partner claps in a certain way so that the other partner can repeat it. Then, work together to describe the way you clap. (Some suggestions: *loudly*, *softly*, *quickly*, *slowly*, etc.) What are these describing words called? (adverbs)