



Teacher's Guide

Nutrition

Dear Educator,

Your students will get a taste of healthful eating as they read this issue of **KIDS DISCOVER**. Your young scientists will find out about nutritious foods and their importance to healthy living..

This Teacher's Guide is filled with activity ideas and blackline masters that can help your students understand more about nutrients, including carbohydrates, proteins, fats, vitamins, and minerals, and their importance. Select or adapt the activities that suit your students' needs and interests best.

Thank you for making **KIDS DISCOVER** a part of your classroom agenda.

Sincerely,

KIDS DISCOVER

P.S. We would love to hear from you. E-mail your comments and ideas to teachers@kidsdiscover.com

Meeting the Standards

Life Science

- ✓ The characteristics of organisms
- ✓ Structure and function in living systems
- ✓ Visit www.kidsdiscover.com/standards to find out more about how **KIDS DISCOVER** meets state and national standards.

| PAGES | WHAT'S IN NUTRITION |
|-------|---|
| 2-3 | Food, Glorious Food Food is the taste treat of survival. |
| 4-5 | Fueling Up Carbohydrates burn to produce energy. |
| 6-7 | A Little Goes a Long Way The body works with just a little bit of protein and fat. |
| 8-9 | Eating Your A, B, C's—and Iron, Too! Vitamins and minerals provide the basics. |
| 10-11 | The Digestive System The digestive system is the body's food processor. |
| 12-13 | The Balancing Act For a balanced diet, eat a variety of foods. |
| 14-15 | Healthful Eating Around the World Every region offers healthful food choices. |
| 16-17 | Nutrition for Tomorrow Foods of the future may be high tech or organic. |
| 18-19 | Game Pages Food survey and fun with food presentation help review and extend content. |

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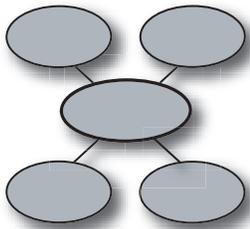
PREREADING ACTIVITIES

Before distributing **KIDS DISCOVER Nutrition**, activate students' prior knowledge with these activities.

Discussion

To get students thinking about how this topic relates to their interests and lives, ask:

- ✓ *What foods have you eaten today? How many of these foods were processed?*
- ✓ *What are your favorite foods? How can you make them a part of a balanced diet?*



Concept Map

Explain to students that they will be reading *Nutrition*. Ask: *What are some words related to nutrition?* List students' responses on the board. (See box below for some terms they may

suggest.) After creating a list, ask students to group the words into categories related to nutrition—**Nutrients, Foods, Purpose, Diseases, and Digestion**. Create a concept map by writing *Nutrition* on the board and circling it. Write the categories around the circle and draw lines between the ideas to show the connections. Then list examples and write the words from the list around the appropriate categories. Encourage students to add more words to the concept map as they read *Nutrition*.

KEY TERMS

- | | | |
|------------------|------------|-----------------|
| ✓ macronutrients | ✓ calories | ✓ immune system |
| ✓ micronutrients | ✓ energy | |
| ✓ carbohydrates | ✓ glucose | ✓ liver |
| ✓ proteins | ✓ insulin | ✓ food pyramid |
| ✓ fats | ✓ diabetes | ✓ cuisine |
| ✓ vitamins | ✓ rickets | ✓ antioxidants |
| ✓ minerals | ✓ calcium | ✓ anemia |

Get Set to Read (Anticipation Guide)



Copy and distribute the **Get Set to Read** blackline master (page 3 of this Teacher's Guide).

Explain to students that this **Anticipation Guide** will help them find out what they know and what misconceptions they have about the topic. **Get Set to Read** is a list of statements—some true, some false. Ask students to write whether they think each statement is true or false in the **Before Reading** column. Be sure to tell students that it is not a test and they will not be graded on their answers. The activity can be completed in a variety of ways for differentiated instruction:

- ◆ **Have students** work on their own or in small groups to complete the page.
- ◆ **Assign pairs** of students to focus on two statements and to become "experts" on these topics.
- ◆ **Ask students** to complete the **Before Reading** column on their own, and then tabulate the class's answers on the chalkboard, on an overhead transparency, or on your classroom computer.
- ◆ **Review the statements** orally with the entire class.

If you predict that students will need assistance finding the answers, complete the **Page Number** column before copying **Get Set to Read**.

Preview

Distribute *Nutrition* and model how to preview it. Examine **titles, headings, words in boldface, pictures, charts, and captions**. Then have students add new information to the **KWL** chart. If students will only be reading a few pages at one sitting, preview only the selected pages.

BE WORD WISE WITH POWER VOCABULARY!

You have exclusive access to additional resources including Power Vocabulary blackline masters for every available **KIDS DISCOVER** title! These activities introduce students to 15 specialized and general-use vocabulary words from each **KIDS DISCOVER** title. Working with both types of words helps students develop vocabulary, improve comprehension, and read fluently. Follow the links from your Teacher's Toolbox CD-ROM and find your title to access these valuable resources:

- ◆ Vocabulary cards
- ◆ Crossword puzzle
- ◆ Word find
- ◆ Matching
- ◆ Cloze sentences
- ◆ Dictionary list

◆◆◆◆◆ www.kidsdiscoverteachers.com ◆◆◆◆◆



Name _____ Date _____

Get Set to Read

What do you know about nutrition? In **Before Reading**, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER Nutrition**. Check back to find out if you were correct. Write the correct answer and its page number.

CHALLENGE: Rewrite each false sentence in a way that makes it true.

| Before Reading | | After Reading | Page Number |
|----------------|--|---------------|-------------|
| _____ | 1. Unburned calories are stored in the body as fat. | _____ | _____ |
| _____ | 2. All sugars and starches are broken down into glucose in the body. | _____ | _____ |
| _____ | 3. The insulin made in the liver controls the level of sugar in the blood. | _____ | _____ |
| _____ | 4. The body gets the essential amino acids it needs by manufacturing them. | _____ | _____ |
| _____ | 5. The body needs some salt to regulate blood pressure. | _____ | _____ |
| _____ | 6. Calcium helps build strong bones and teeth. | _____ | _____ |
| _____ | 7. Bile is stored in the liver. | _____ | _____ |
| _____ | 8. Nutritionists recommend eating meat in small quantities. | _____ | _____ |
| _____ | 9. The earliest crops people grew were grains. | _____ | _____ |
| _____ | 10. Organic foods are grown with chemical pesticides and fertilizers. | _____ | _____ |

Name _____ Date _____

It's in the Reading

After reading **KIDS DISCOVER Nutrition**, choose the best answer for each question.
Fill in the circle.



Find your answers on the pages shown in the book icon next to each question.

1. Which of the following is a micronutrient?

- A. vitamins
- B. proteins
- C. fats
- D. carbohydrates



2. What is glucose?

- A. a starch
- B. a sugar
- C. a vitamin
- D. a mineral



3. Why are more children suffering from Type II diabetes today?

- A. They do not produce insulin.
- B. They are not getting enough fiber in their diet.
- C. They have too much sugar in their blood.
- D. They are overweight.



4. How do essential amino acids differ from other amino acids?

- A. They are produced by the body.
- B. They are present only in meats.
- C. They must come from the food a person eats.
- D. They are the way to get vitamin A.



5. Which mineral is added to table salt?

- A. iron
- B. calcium
- C. iodine
- D. magnesium





It's in the Reading (continued)

6. What is another name for Vitamin C?

- A. riboflavin
- B. retinol
- C. folic acid
- D. ascorbic acid



7. Where does the digestive process start?

- A. stomach
- B. large intestine
- C. esophagus
- D. mouth



8. How does the diet of a vegan differ from the diet of a vegetarian?

- A. It does not include meat.
- B. It does not include vegetables
- C. It does not include eggs.
- D. It does not include fish.



9. Which word means “substance used to flavor food”?

- A. condiment
- B. cuisine
- C. cultivate
- D. condition



10. How do organic foods differ from other foods?

- A. They are grown on small farms.
- B. They are grown without chemical pesticides and fertilizers.
- C. They are genetically modified.
- D. They are produced by corporate farms.



11. Why do children need a balanced diet?



Name _____ Date _____

Everything Visual

In *Nutrition*, a labeled diagram shows the process of digestion. Use the diagram on pages 10–11 to answer these questions.

1. What happens to food in the mouth?

2. What is the purpose of the esophagus?

3. What happens in the stomach?

4. What is the liver's role in digestion?

5. From which part of the digestive system are nutrients first absorbed into the bloodstream?

6. What does the large intestine do?

7. What does the pancreas do to aid digestion?

8. Which part of the digestive system does food not enter?



Name **ANSWER KEY** _____ Date _____

Get Set to Read

What do you know about nutrition? In **Before Reading**, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER Nutrition**. Check back to find out if you were correct. Write the correct answer and its page number.

CHALLENGE: Rewrite each false sentence in a way that makes it true.

| Before Reading | | After Reading | Page Number |
|----------------|---|---------------|------------------|
| _____ | 1. Unburned calories are stored in the body as fat. | <u>True</u> | <u>pp. 2-3</u> |
| _____ | 2. All sugars and starches are broken down into glucose in the body. | <u>True</u> | <u>pp. 4-5</u> |
| _____ | 3. The insulin made in the liver pancreas controls the level of sugar in the blood. | <u>False</u> | <u>pp. 4-5</u> |
| _____ | 4. The body gets the essential amino acids it needs by manufacturing them from the food eaten . | <u>False</u> | <u>pp. 6-7</u> |
| _____ | 5. The body needs some salt to regulate blood pressure. | <u>True</u> | <u>pp. 8-9</u> |
| _____ | 6. Calcium helps build strong bones and teeth. | <u>True</u> | <u>pp. 8-9</u> |
| _____ | 7. Bile is stored in the liver gallbladder . | <u>False</u> | <u>pp. 10-11</u> |
| _____ | 8. Nutritionists recommend eating meat in small quantities. | <u>True</u> | <u>pp. 12-13</u> |
| _____ | 9. The earliest crops people grew were grains. | <u>True</u> | <u>pp. 14-15</u> |
| _____ | 10. Organic foods are grown with without chemical pesticides and fertilizers. | <u>False</u> | <u>pp. 16-17</u> |

Name **ANSWER KEY** _____ Date _____

It's in the Reading

After reading **KIDS DISCOVER Nutrition**, choose the best answer for each question.
Fill in the circle.



Find your answers on the pages shown in the book icon next to each question.

1. Which of the following is a micronutrient?

- A. vitamins (*classify*)
- B. proteins
- C. fats
- D. carbohydrates



2. What is glucose?

- A. a starch
- B. a sugar (*classify*)
- C. a vitamin
- D. a mineral



3. Why are more children suffering from Type II diabetes today?

- A. They do not produce insulin.
- B. They are not getting enough fiber in their diet.
- C. They have too much sugar in their blood.
- D. They are overweight. (*cause and effect*)



4. How do essential amino acids differ from other amino acids?

- A. They are produced by the body.
- B. They are present only in meats.
- C. They must come from the food a person eats. (*compare and contrast*)
- D. They are the way to get vitamin A.



5. Which mineral is added to table salt?

- A. iron
- B. calcium
- C. iodine (*details*)
- D. magnesium



6. What is another name for Vitamin C?

- A. riboflavin
- B. retinol
- C. folic acid
- D. ascorbic acid (*details*)



7. Where does the digestive process start?

- A. stomach
- B. large intestine
- C. esophagus
- D. mouth (*sequence*)



8. How does the diet of a vegan differ from the diet of a vegetarian?

- A. It does not include meat.
- B. It does not include vegetables
- C. It does not include eggs. (*compare and contrast*)
- D. It does not include fish.



9. Which word means “substance used to flavor food”?

- A. condiment (*word meaning*)
- B. cuisine
- C. cultivate
- D. condition



10. How do organic foods differ from other foods?

- A. They are grown on small farms.
- B. They are grown without chemical pesticides and fertilizers. (*compare and contrast*)
- C. They are genetically modified.
- D. They are produced by corporate farms.



11. Why do children need a balanced diet?

Essay: Students should conclude that a balanced diet would provide the nutrients children's bodies need to grow and develop properly.



Name **ANSWER KEY** _____ Date _____

Everything Visual

In *Nutrition*, a labeled diagram shows the process of digestion. Use the diagram on pages 10–11 to answer these questions.

1. What happens to food in the mouth?

In the mouth, the teeth grind and tear food, and saliva begins to break down the carbohydrates. The tongue pushes food to the back of the mouth so it can be swallowed.

2. What is the purpose of the esophagus?

The esophagus is a passage through which food moves from the mouth to the stomach.

3. What happens in the stomach?

In the stomach, food is broken down in two ways: it is churned into mush and chemically broken down.

4. What is the liver's role in digestion?

The liver produces bile that aids in the digestion and absorption of fats, and it stores food substances.

5. From which part of the digestive system are nutrients first absorbed into the bloodstream?

the small intestine

6. What does the large intestine do?

The large intestine removes water from remaining nutrients. Anything remaining material leaves the body as waste matter.

7. What does the pancreas do to aid digestion?

The pancreas produces digestive fluids.

8. Which part of the digestive system does food not enter?

Food does not go through the liver, pancreas, or gallbladder.