



KidsHealth.org/classroom

Teacher's Guide

This guide includes:

- Standards
- Related Links
- Discussion Questions
- Activities for Students
- Reproducible Materials

Standards

This guide correlates with the following National Health Education Standards:

Students will:

- Comprehend concepts related to health promotion and disease prevention to enhance health.
- Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Demonstrate the ability to access valid information and products and services to enhance health.
- Demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Demonstrate the ability to use decision-making skills to enhance health.
- Demonstrate the ability to use goal-setting skills to enhance health.
- Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
- Demonstrate the ability to advocate for personal, family, and community health.

National Health Education Standards:
<http://www.cdc.gov/healthyschools/sher/standards/index.htm>

These activities will help your students understand how the parts of the digestive system work together to provide their bodies with nutrients and energy.

Related KidsHealth Links

Articles for Teens:

Digestive System

TeensHealth.org/en/teens/digestive-system.html

Mouth and Teeth

TeensHealth.org/en/teens/mouth-teeth.html

Metabolism

TeensHealth.org/en/teens/metabolism.html

Stomachaches

TeensHealth.org/en/teens/stomachaches.html

Gastrointestinal Infections and Diarrhea

TeensHealth.org/en/teens/diarrhea.html

Indigestion

TeensHealth.org/en/teens/indigestion.html

Constipation

TeensHealth.org/en/teens/constipation.html

Fiber

TeensHealth.org/en/teens/fiber.html

MyPlate Food Guide

TeensHealth.org/en/teens/myplate.html

Discussion Questions

Note: The following questions are written in language appropriate for sharing with your students.

1. How does the food move through the digestive system and into the rest of the body?
2. In addition to the organs of the digestive system, various chemicals are also at work. Discuss the roles they play in digestion.
3. Why do fiber-rich foods like fruits, veggies, and whole grains, as well as drinking lots of water, help digestion?
4. There are several common problems with the digestive system, like indigestion and diarrhea. How do they happen?



Activities for Students

Note: The following activities are written in language appropriate for sharing with your students.

Lunch's Long and Winding Road

Objectives:

Students will:

- Learn how foods are broken down into nutrients and energy as they go through the digestive system

Materials:

- Pen or pencil
- "Lunch's Long and Winding Road" handout
- Computer with Internet access

Class Time:

30 minutes

Activity:

Food gives you energy, right? When you eat a sandwich, for example, your digestive system breaks it down into the fuel your body needs to keep functioning properly. How does it do it? It's not sending little chunks of sandwich to your tissues, so what's happening?

On the "Lunch's Long and Winding Road" handout sheet, describe what happens to food at each stop along the digestive system. At the same time, other parts of the body are playing their roles. Fill in a description of each of their functions.

Extension:

On the back of the handout, answer these questions:

What can you do to help food move through your digestive system? What kinds of foods help? What roles do water and exercise play in aiding digestion?



Digestive Health Problems

Objectives:

Students will:

- Learn about various diseases and problems related to the digestive system
- Understand how these diseases affect the body's ability to get the nutrition it needs

Materials:

- Pen or pencil and paper, or word processing program
- Computer with Internet access

Class Time:

30 minutes

Activity:

So you've learned how the digestive system delivers nutrients to the body. But what if something goes wrong? There are many different digestive health problems.

List the following health problems on a separate sheet of paper. Using TeensHealth.org articles, give a one-sentence description for each problem, and then write another sentence or two about how the problem affects the digestive system's ability to do its job. Finally, write a sentence or two how the problem can be prevented and/or treated.

- Celiac Disease
- Constipation
- Cystic Fibrosis
- Gastroesophageal Reflux Disease (GERD)
- Indigestion
- Inflammatory Bowel Disease
- Irritable Bowel Syndrome
- Lactose Intolerance
- Ulcers

Reproducible Materials

Handout: Lunch's Long and Winding Road

KidsHealth.org/classroom/9to12/body/systems/digestive_handout1.pdf

Quiz: Digestive System

KidsHealth.org/classroom/9to12/body/systems/digestive_quiz.pdf

Answer Key: Digestive System

KidsHealth.org/classroom/9to12/body/systems/digestive_quiz_answers.pdf



Name: _____

Date: _____

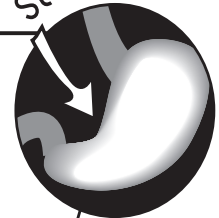
Lunch's Long and Winding Road

Instructions: Use this flowchart to explain how a food goes from being an item on a plate to energy and nutrients for your body. In the spaces provided, write a sentence or two about what happens at each location.





stomach

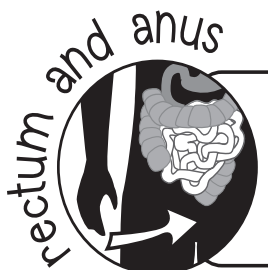






large intestine







Name: _____

Date: _____

Quiz

Instructions: Answer each question.

- Your digestive system works on the foods you eat for about:
 - 5 hours
 - 10 hours
 - 15 hours
 - 20 hours
- The digestive system breaks down food into:
 - nutrients
 - amylase
 - saliva
 - sphincters
- During the process of absorption, nutrients from food go from:
 - the intestines into the bladder
 - the blood into the organs
 - the intestines into the bloodstream
 - the mouth into the stomach
- The alimentary canal, or digestive tract, is made up of the:
 - pancreas, liver, and gallbladder
 - esophagus, stomach, and intestines
 - colon, rectum, and anus
 - mouth, esophagus, and stomach
- These move food through the digestive system:
 - digestive fluids
 - enzymes
 - mucous membranes
 - smooth muscles
- In the stomach:
 - muscles churn and mix the food with acids and enzymes
 - glands make 3 quarts of digestive juices each day
 - food leaves as a thick liquid called chyme
 - all of the above
- The pancreas, liver, and gallbladder help digestion in these ways, respectively:
 - making enzymes; making bile and processing nutrients; and storing bile
 - producing saliva; digesting carbohydrates; and eliminating waste
 - producing hormones; producing enzymes; and eliminating waste
 - making acids; producing digestive juices; and storing enzymes

8. A flexible flap of tissue called the _____ reflexively closes over the windpipe when we swallow to prevent choking.

9. Waves of muscle contractions called _____ force food down through the esophagus to the stomach.

10. The inner wall of the small intestine is covered with millions of microscopic, finger-like projections called _____, through which nutrients can be absorbed into the body.

Extra credit

The small intestine is made up of three parts:

the c-shaped first part called the _____, the coiled midsection called the _____, and the final section that leads into the large intestine called the _____.



Quiz Answer Key

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- The pancreas, liver, and gallbladder help digestion in these ways, respectively:
 - making enzymes; making bile and processing nutrients; and storing bile
 - producing saliva; digesting carbohydrates; and eliminating waste
 - producing hormones; producing enzymes; and eliminating waste
 - making acids; producing digestive juices; and storing enzymes
- A flexible flap of tissue called the epiglottis reflexively closes over the windpipe when we swallow to prevent choking.
- Waves of muscle contractions called peristalsis force food down through the esophagus to the stomach.
- The inner wall of the small intestine is covered with millions of microscopic, finger-like projections called villi, through which nutrients can be absorbed into the body.

Extra credit

The small intestine is made up of three parts: the c-shaped first part called the duodenum, the coiled midsection called the jejunum, and the final section that leads into the large intestine called the ileum.