

### Follow-up Discussion

The most important part of this segment is to examine both the facts and beliefs generated by the class in their "Everything We Know About..." list. Research indicates that students will retain their previous misconceptions — in preference to the new information — until they actively recognize and correct their own errors. Because of this, it is important to lead students to the correct ideas while identifying and correcting any misconceptions from the class list. After reviewing the list, encourage students to share the answers they got to the questions raised, before viewing the program.

Raising a thought-provoking question is a good way to assess the overall depth of student understanding. A couple of suggestions are listed below:

- If you had the best hygiene of any person in the world, would that mean that you could prevent yourself from ever getting sick again? Explain your answer.
- Describe some symptoms you have had when you were sick. What do you think was happening inside your body?
- What do you think it means when someone says a fever is a good sign?
- What can you do to help yourself stay healthy?

### Follow-up Activities

- Have students create a classroom checklist of good hygiene and exercise habits with seven columns to the right of the list (one for each day of the next week). Students can mark off habits if they performed them that day.
- Bring in some peeled potatoes and small clean jars to class. Have several children pick up a potato without washing their hands. Place them into jars and label them as the unwashed ones. Have the same students wash their hands thoroughly and give them another potato. Place these potatoes in different jars, labeling them as the ones touched with clean hands. Put lids on all the jars, and observe and record the changes in the potatoes every few days. The activity will give students a very good understanding of why it is important to wash their hands before preparing food and before eating.

### Suggested Internet Resources

Periodically, Internet Resources are updated on our Web site at [www.LibraryVideo.com](http://www.LibraryVideo.com)

- [www.amnh.org/explore/infection/index.html](http://www.amnh.org/explore/infection/index.html)  
The American Museum of Natural History presents these pages called "Infection Detection Prevention" that include interactive games, coloring pages and great information about microbes for kids.

(Continued)

- [www.ada.org/public/topics/kids/8yrolld.html](http://www.ada.org/public/topics/kids/8yrolld.html)  
This site from the American Dental Association features games and movies for kids to learn about good dental health.
- [kidshealth.org/kid/](http://kidshealth.org/kid/)  
This is an informative site developed by the Nemours Foundation on general health issues for young people.
- [www.niehs.nih.gov/kids/baylor/home.htm](http://www.niehs.nih.gov/kids/baylor/home.htm)  
This site from the National Institute of Environmental Health Sciences contains games and puzzles for kids on clean air, water and food and promotes overall health awareness.

### Suggested Print Resources

- Balkwill, Fran. *Cell Wars*. Carolrhoda Books, Inc., Minneapolis, MN; 1993.
- Berger, Melvin. *Germs Make Me Sick*, revised ed. HarperCollins Children's, New York, NY; 1995.
- Royston, Angela. *Clean and Healthy* and *Eat Well*. Heinemann Library, Des Plaines, IL; 2000.

#### TEACHER'S GUIDE CONSULTANT

Conrad M. Follmer

25 years as a K-5 Science & Math coordinator for a Pennsylvania public school system, currently an independent consultant to elementary schools.

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## All About Health & Hygiene

Grades K-4

This guide is a supplement, designed for educators to use when presenting this program in an instructional setting.

**Before Viewing:** Research in learning suggests that it is important for the teacher to discover what the students know — or think they know — about a topic, at the start of a new unit, so that their accurate conceptions can be validated and reinforced, and their misconceptions identified and corrected. Therefore, after reviewing the pre-viewing discussion questions provided for your class, create an "Everything We Know About..." list. Preview key vocabulary words and have students raise additional questions they hope will be answered by this program. Most importantly, students should be told that as "science detectives" they must listen closely, so that after viewing the program, they will be able to tell whether or not the facts/beliefs they put on their list were scientifically accurate.

**After Viewing:** After a brief discussion about the program, challenge your "science detectives" to prove or disprove the accuracy of the facts they put on their "Everything We Know About..." list. Discuss what else they learned and use the follow-up questions and activities to inspire further discussion. Encourage students to research the topic further with the Internet and reading resources provided.



## Program Summary

Being healthy means that all of the body's parts are working as they should, but even healthy people get sick sometimes. Whenever we get an illness, there are things we can do to get better. We can rest, drink fluids, visit the doctor and take medicine. We can also do things that will help us stay healthy and help prevent illness, like keeping clean, brushing our teeth and taking care of ourselves.

A disease is an illness that keeps us from being healthy. Some diseases are caused by germs that can spread from one person to another. These are called infectious or contagious diseases. Germs are tiny living things called microbes that usually can only be seen under a microscope. Some bacteria, viruses and fungi are microbes that can cause infectious diseases when people come in contact with them. Insects and other animals can carry and spread infectious diseases. The truth is, we simply cannot avoid disease-causing microbes because they are everywhere! However, we can keep germs from entering our bodies by practicing good hygiene. That means getting plenty of rest and exercise, keeping clean and eating foods that are healthy.

Luckily, our body is equipped with an immune system to protect us from germ invaders. The immune system begins with a protective coating of skin, hair, tears, saliva and mucus to keep microbes from getting inside the body. If they do get inside, microbes face a second line of defense. Upon sensing the invaders, the immune system raises the body temperature to a fever, and special blood cells track down the microbes, surrounding them and making special weapons called antibodies. Once antibodies are made to fight a particular disease, the immune system remembers how to make them and can protect you from the same disease in the future. This kind of protection from disease is called immunity. Special medicines called vaccines help our bodies to do the same thing. Other medicines called antibiotics can be given to people who have illnesses caused by bacteria. Antibiotics are not helpful against viruses, however, so when we get the flu or other diseases caused by a virus, we sometimes have to let the virus run its course, or we can fight it with anti-viral medications.

Some diseases are not caused by germs and cannot be caught from other infected people. These are called noninfectious diseases which can be caused by an unhealthy lifestyle or can be passed down through families. Keeping your body strong and clean by exercising and bathing will help you fight off some of these diseases. Avoiding bad habits that hurt your body and eating good foods will also help keep your body healthy.

## Vocabulary

The following words are included for teacher reference or for use with students. They are listed in the order in which they appear in the video.

**health** — The overall condition of your body when it is working properly and free from illness.

**hygiene** — The things that we do to keep ourselves and our surroundings clean and free from germs. Good hygiene includes bathing, wearing clean clothes, brushing our teeth and washing our hands frequently.

**disease** — An illness that keeps your body from being healthy and feeling good.

**symptoms** — The signs that your body is fighting an illness, like a fever, runny nose or cough.

**infection** — When germs enter your body, start growing there and make you feel sick.

**microbe** — A small living thing that can not be seen without a microscope. Some bacteria, viruses and fungi are microbes that make us sick.

**infectious diseases** — Also known as contagious diseases. Sickness that can be spread from person to person, through contact or through poor hygiene.

**bacteria** — Simple one-celled microbes that live everywhere. Some bacteria are helpful, while others can cause infectious diseases.

**viruses** — The very smallest of the microbes, which can infect every living creature on Earth.

**noninfectious diseases** — Illnesses that cannot be spread from one person to another. Some of these diseases, like allergies and asthma, can be passed down from our parents or grandparents.

**immune system** — The system in the human body that helps to keep us healthy by protecting us from germs.

**fever** — A body temperature that is higher than normal. When germs invade the body, sometimes the body responds with a fever. This is a sign that your body is fighting back.

**white blood cells** — Special cells that fight off microbes that find their way into the body.

**antibodies** — Proteins that are produced by the immune system to attack invaders.

**immunity** — The condition of the body where, after having fought off a particular disease, it can never get that disease again.

**vaccine** — A substance that helps protect the body against a specific disease and helps the body become immune to that disease.

**antibiotic** — A substance that helps the body kill bacteria that are too strong for the immune system to fight alone.

**penicillin** — An important medicine that destroys bacteria that cause some diseases.

## Pre-viewing Discussion

Before students generate their list of “Everything We Know About...” this topic, stimulate and focus their thinking by raising these questions so that their list will better reflect the key ideas in this show:

- What are germs? How do germs make us sick?
- How can our bodies fight germs?

After the class has completed their “Everything We Know About...” list, ask them what other questions they have that they hope will be answered during this program. Have students listen closely to learn if everything on their class list is accurate and to hear if any of their own questions are answered.

## Focus Questions

1. What does it mean to be healthy?
2. What are some of the things that we do to stay healthy?
3. What is a disease?
4. What does contagious mean?
5. How do we know that we have a disease?
6. What is an infection?
7. Where are microbes found?
8. What are the three main groups of disease-causing microbes?
9. What's so good about bacteria?
10. What sorts of things can you do to fight diseases?
11. What are some examples of noninfectious diseases?
12. What parts of the human body help to keep microbes from getting into the body?
13. What is the immune system?
14. How does the immune system work to fight an infection?
15. What is a vaccine?
16. What is an antibiotic? When does the doctor prescribe antibiotics?
17. Why can't we take an antibiotic to cure the common cold?
18. Name some good hygiene habits. Which ones do you think are the most important? Why?