



**Mini Fact:**  
A little boy in Cambodia receives a vaccination against the measles. The measles virus is very contagious.

photo courtesy of CDC Global

## The Mighty Germ

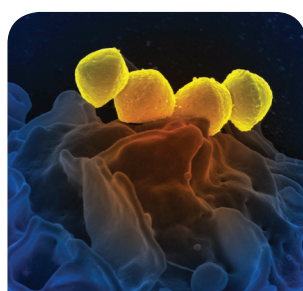
Have you ever wondered how we catch colds, flu and other diseases? A sore throat might be caused by bacteria or viruses. Diseases such as flu are caused by viruses. Illnesses such as food poisoning can be caused by bacteria such as E. coli (E KOH-lie) and salmonella (SAL-muh-NELL-uh).

Bacteria and viruses are some of the tiniest creatures on Earth. They are also some of the most powerful. They can wipe out armies or destroy crops. But bacteria also help keep everything on Earth alive.

As the school year gets underway, The Mini Page takes a look at the germs that can make us sick.

### What are bacteria?

Bacteria are creatures made of just one cell. A cell is the smallest unit of life that can function on its own. Bacteria are so small that hundreds to thousands of them could fit on the period at the end of this sentence.



These Streptococcus bacteria (in gold) can cause strep throat.

photo courtesy of NIAID

Bacteria can grow in many different habitats, such as the soil, human bodies, animals and plants. They have even been found living in active volcanoes and at the bottom of the ocean. Experts believe bacteria may be some of the earliest forms of life.

### Helpful and harmful

Without bacteria, life would not exist on Earth. They break apart dead matter and return the materials to the environment. Bacteria are necessary for our health. They live in our intestines and help us digest food so we can use the vitamins and minerals in it.

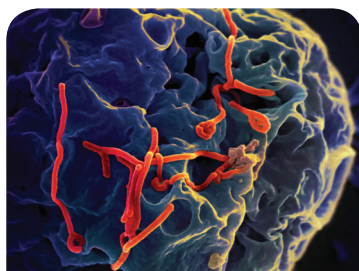
These bacteria do not normally cause illnesses. But if something throws our bodies off balance, such as not getting enough sleep or healthy food, the normal bacteria in our bodies can multiply and make us ill.

Bacteria can also enter the body from outside. They might get in through your mouth or nose, contaminated food or a cut.

### What are viruses?

Viruses are much more basic than even bacteria. They are so simple, some experts do not think they are actually living organisms. Viruses cannot survive outside of a host, such as a person, animal or plant.

Other experts believe viruses are the smallest form of life. From 10,000 to 1 million viruses could fit on a period.



The Ebola virus (in red) is a deadly virus that affects humans and other mammals.

photo courtesy of NIAID

### Staying healthy

Have you ever gotten a shot to keep you from getting a disease such as measles or flu? A shot to prevent disease is called a vaccine (vak-SEEN).

Vaccines expose your body to small amounts of viruses or bacteria. The small doses of these germs cause the body to make its own defenses. Your body remembers the invading bacteria or viruses and how to defend against them. Then, if you ever get that virus or bacteria again, your body can produce defenses quickly. This can keep you free of the disease, or can help you to suffer a milder form.

### Preventing illness

Experts say washing your hands is the most powerful strategy you can use against bacteria or viruses. It is important to wash your hands:

- before eating;
- before putting your hands into your mouth for any reason;
- after sharing toys;
- after playing outside or touching an animal;
- after going to the bathroom;
- after you've been with someone who is sick;
- if you get a cut or scrape.



photo courtesy USDA

### Resources



#### On the Web:

- [bit.ly/MPgerms](http://bit.ly/MPgerms)
- [ducksters.com/science/bacteria.php](http://ducksters.com/science/bacteria.php)

#### At the library:

- "Germs Make Me Sick!" by Melvin Berger
- "A Germ's Journey" by Thom Rooke, M.D.

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## Try 'n' Find

Words that remind us of germs are hidden in this puzzle. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find:



BACTERIA, CELL,  
COLD, DEFENSE,  
DIGEST, DISEASE,  
FLU, GERMS, HABITAT,  
HANDS, HARM, HEALTH,  
HELP, LIFE, MEASLES,  
MULTIPLY, SHOT,  
STRATEGY, VACCINE,  
VIRUS, WASH.

A I R E T C A B P R S D N A H  
M E A S L E S D E F E N S E K  
I P E L H A B I T A T M U L F  
B L E F I L Y G E T A R T S E  
S E S A E S I D M R A H B D N  
H H K I S V L L E C V H H L I  
O O H M S U R I V Z S J V O C  
T J R A S Q H H E A L T H C C  
B E D I G E S T W D X S T F A  
G U Y L P I T L U M G Y A L V

## Cook's Corner

### No-Bake Pudding Cake

#### You'll need:

- 13 1/2 graham crackers (cinnamon or regular), broken into halves
- 1 (1-ounce) package vanilla instant pudding mix
- 1 1/2 cups low-fat milk (1/2 cup less than

#### package directions

- for thicker pudding)
- 1 (8-ounce) tub light whipped topping, thawed
- 1 cup ready-to-spread chocolate frosting



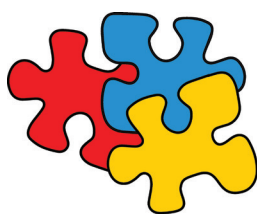
\* You'll need an adult's help with this recipe.

#### What to do:

1. Line an 8-by-8-inch baking pan with 4 1/2 graham cracker halves.
2. Make pudding according to package directions, whisking in milk. Stir whipped topping into pudding. Spread half of pudding mixture on top of graham crackers.
3. Make second layer of 4 1/2 graham cracker halves. Spread remaining pudding mixture on graham crackers.
4. Make third layer of 4 1/2 graham cracker halves. Spread chocolate frosting on top.
5. Refrigerate for 3 hours. Cut into squares to serve. Makes 9 servings.

## Puzzling

Unscramble the words below that remind us of staying healthy.



otdorc \_\_\_\_\_  
cpkuhec \_\_\_\_\_  
inutnriot \_\_\_\_\_  
esple \_\_\_\_\_

Answers: doctor, checkup, nutrition, sleep.

## Mini Jokes



**Billy:** Did you hear the joke about the germ?

**Vicky:** Don't tell it! You'll spread it all over!

## Eco Note



In Myanmar, an outbreak of swine flu in July and August killed 17 people and infected another 166, mainly around the largest city, Yangon. People in the former capital have been wearing surgical masks and avoiding crowded places such as shopping malls. Swine flu is caused by the H1N1 virus.

adapted with permission from Earthweek.com

## For later:

Look through your newspaper for articles about disease outbreaks and staying healthy. Make a plan with your family for staying healthy this coming winter. What steps will you take to avoid getting sick?

**Teachers:** For standards-based activities to accompany this feature, visit: [bit.ly/MPstandards](http://bit.ly/MPstandards). And follow The Mini Page on Facebook!



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