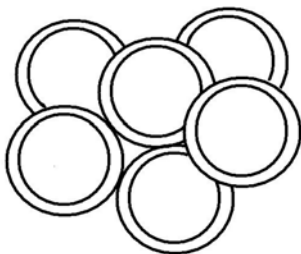


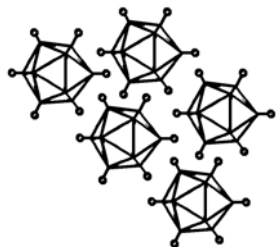
There are many small things that can make you sick.  
Some of them are called **germs**.

There are different types of germs!

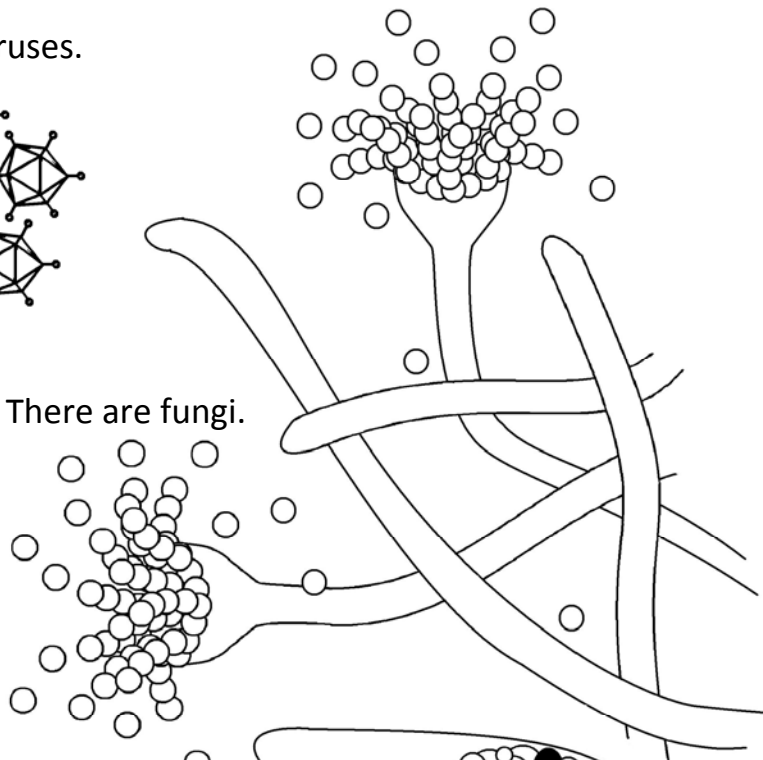
There are bacteria.



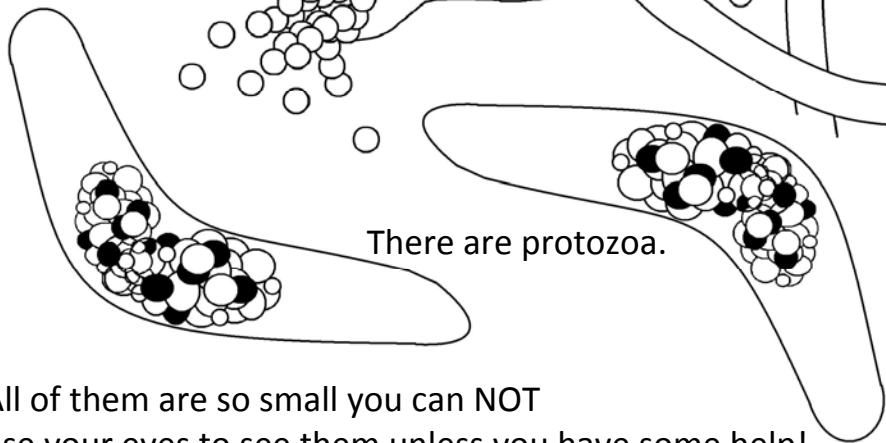
There are viruses.



There are fungi.



There are protozoa.



All of them are so small you can NOT  
use your eyes to see them unless you have some help!

## You can help stop superbugs!

Check with your doctor to find out if you have a virus or bacteria,  
never ask for an antibiotic first!

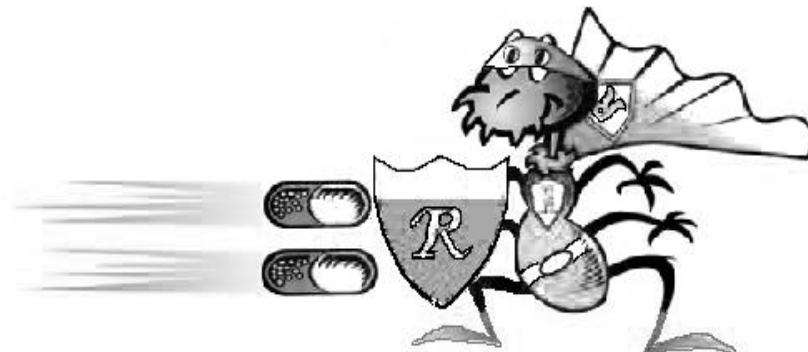
Finish all the antibiotics the doctor asks you to take.

Why use ALL your antibiotics?

- ✓ The bacteria don't all die right away.
- ✓ You may feel better...but some of them are still there.
- ✓ It only takes a couple left behind and they can come back again.



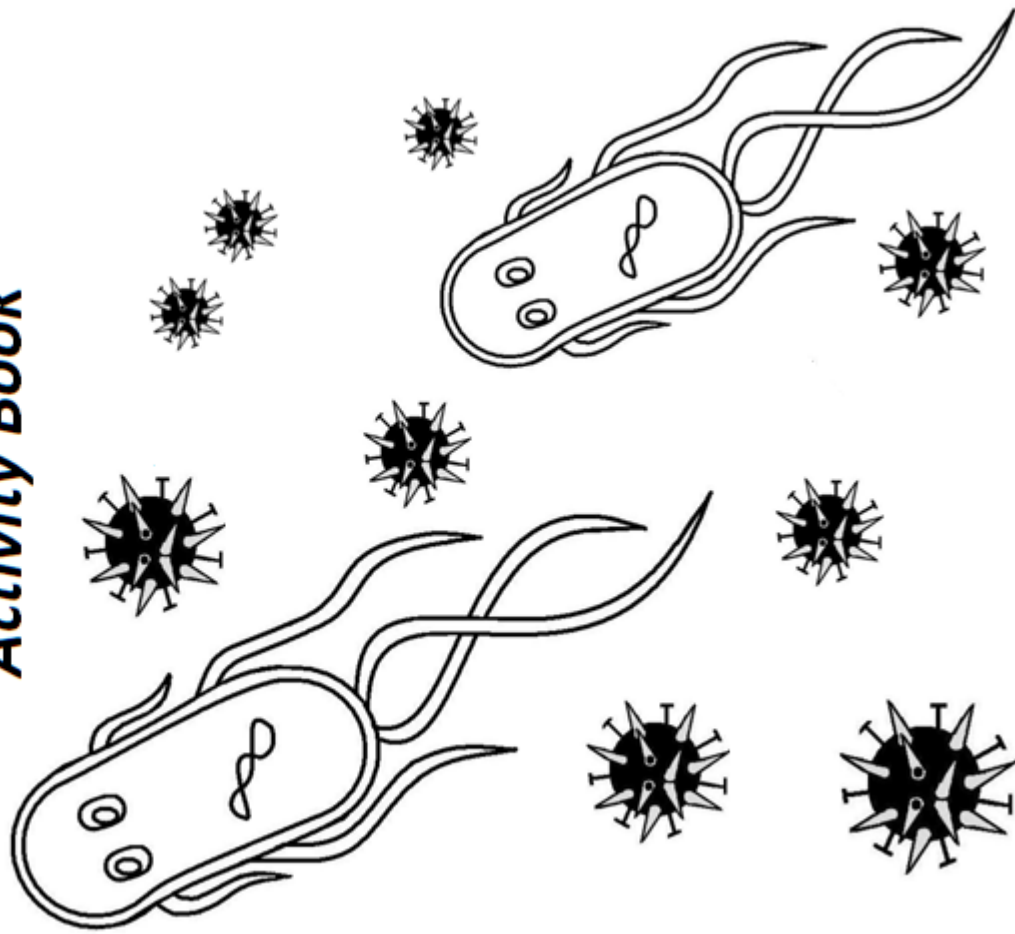
Next time the bacteria may have better ways to avoid your medicine!



Never borrow somebody else's medicine or save yours!  
Never use an antibiotic your doctor did not choose for you!

# GERMS

## Activity Book



Designed by Denaë Christensen, Dmitry Simets, and the OHSU AWARE elective class of 2010-2011  
under the supervision of Dr. Jessina McGregor and Tamara Peterson, MPH

## Protect your family!

Parents: **Use this book as a tool to teach your child strategies to stay healthy.**

When antibiotics are misused it is possible bacteria may develop resistance. These bacteria are difficult to treat and may infect you or other people.

To use antibiotics properly:

- ✓ Never pressure your healthcare provider to give you antibiotics.  
Taking antibiotics when unnecessary puts you and your family at risk for resistant infections.
- ✓ Do not take antibiotics for the cold or flu. These are usually caused by viruses.  
Antibiotics have no effect on viruses and can cause serious side effects.
- ✓ If you are prescribed antibiotics always finish the complete course, even if you feel better.  
This helps ensure all of the bacteria, which have been causing your illness, are gone.
- ✓ Never share your antibiotics and never save them for later.  
Do not take leftover antibiotics or use them without your medical provider's knowledge.



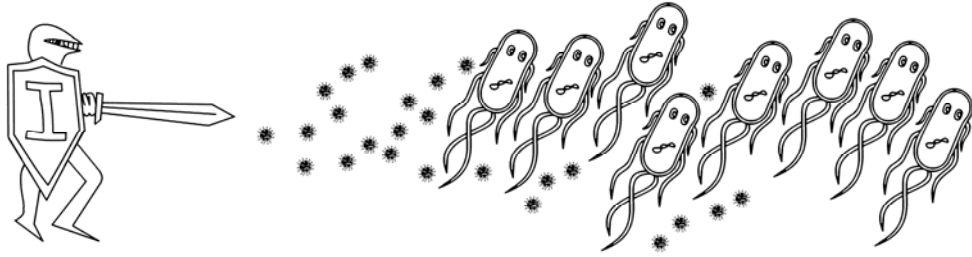
Oregon AWARE (Alliance Working for Antibiotic Resistance Education) is a team of more than 30 government agencies, health plans, health care provider organizations, academic programs and community groups working together to reduce the problem of antibiotic resistance in Oregon. We teach parents, kids, and health care professionals how to use antibiotics wisely.

For more information about how you can help Oregon AWARE spread the word about antibiotic resistance go to: [www.healthoregon.org/antibiotics](http://www.healthoregon.org/antibiotics).

**\*\*Answers to the activity book can be found in the online educational materials!**

If germs are everywhere why don't you fall sick all the time?

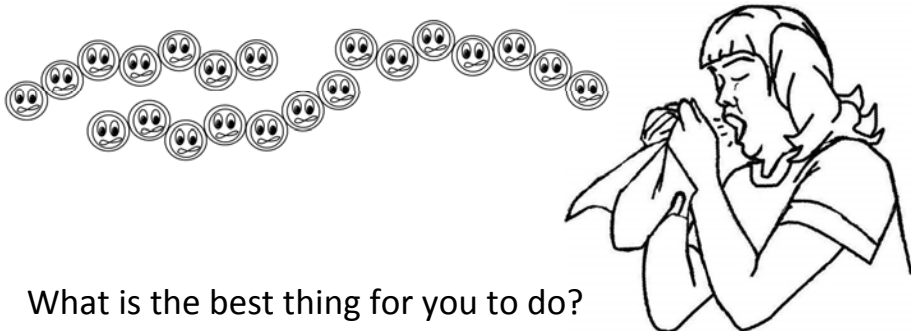
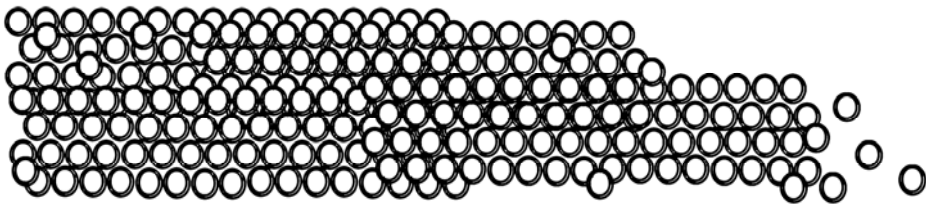
Your body has an immune system, something that keeps germs in control and fights off the viruses and bad bacteria.



Germs can be tricky and multiply so fast they make you sick.

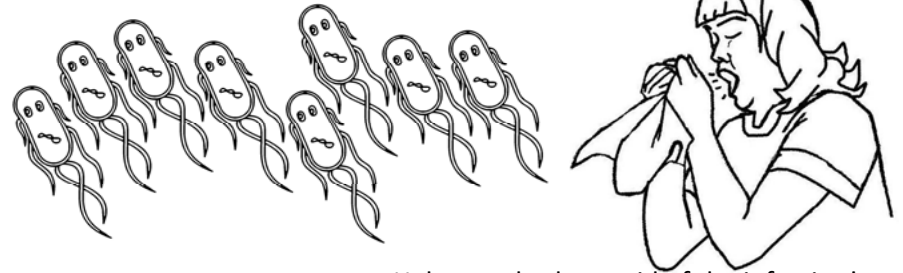
- If there is one of us...
- Pretty soon there will be two!
- Then four...
- It isn't very long before we make many more!!

Unless something stops us we will keep growing until we reach numbers you can't even count!!



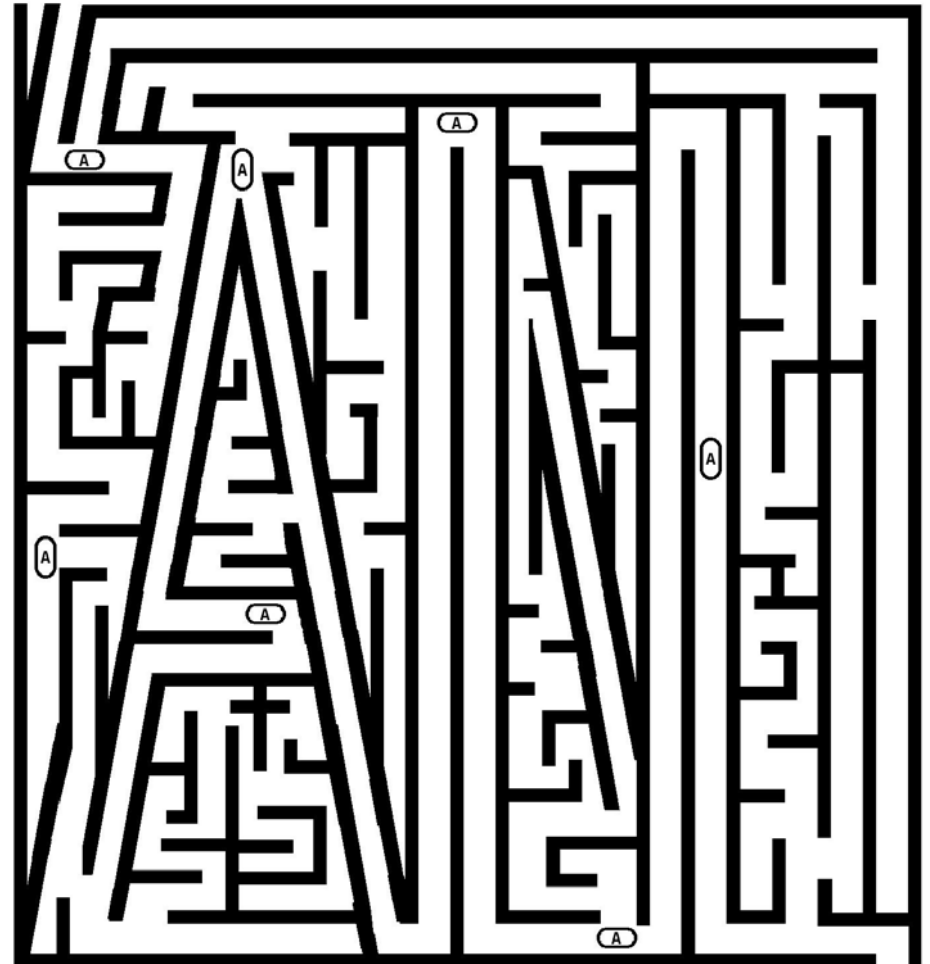
What is the best thing for you to do?

Bacteria are making you sick...



Help your body get rid of the infection!

Antibiotics can help on the way! Make sure to use them all...

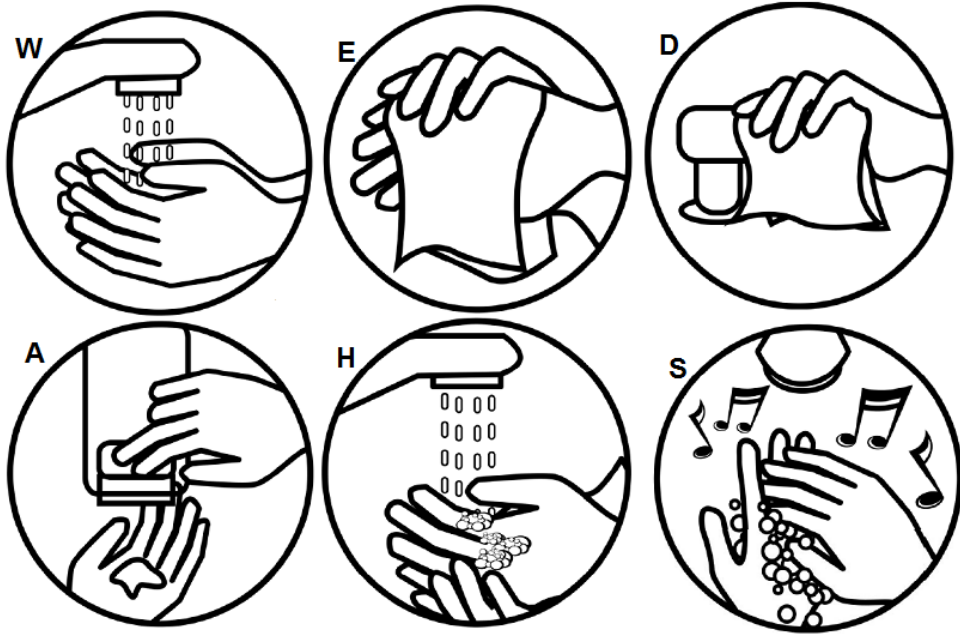


You did it!!

## Ways to prevent germs from making you sick:

- ✓ Handwashing keeps germs out of your body!
- ✓ Don't use your fingers to get germs near your mouth, eyes, or ears!
- ✓ Eat nutritious food to keep your immune system strong!
- ✓ Get enough sleep to keep your immune system strong!

Do you know the proper handwashing steps?



Number the pictures in order. What do the letters spell?!

The soap helps wash the germs off your skin!

Did you know you need to wash thoroughly with soap for at least **20 seconds**?

Use your arm to cover your cough or your sneeze  
so you don't share germs with others!



## Germs are everywhere!

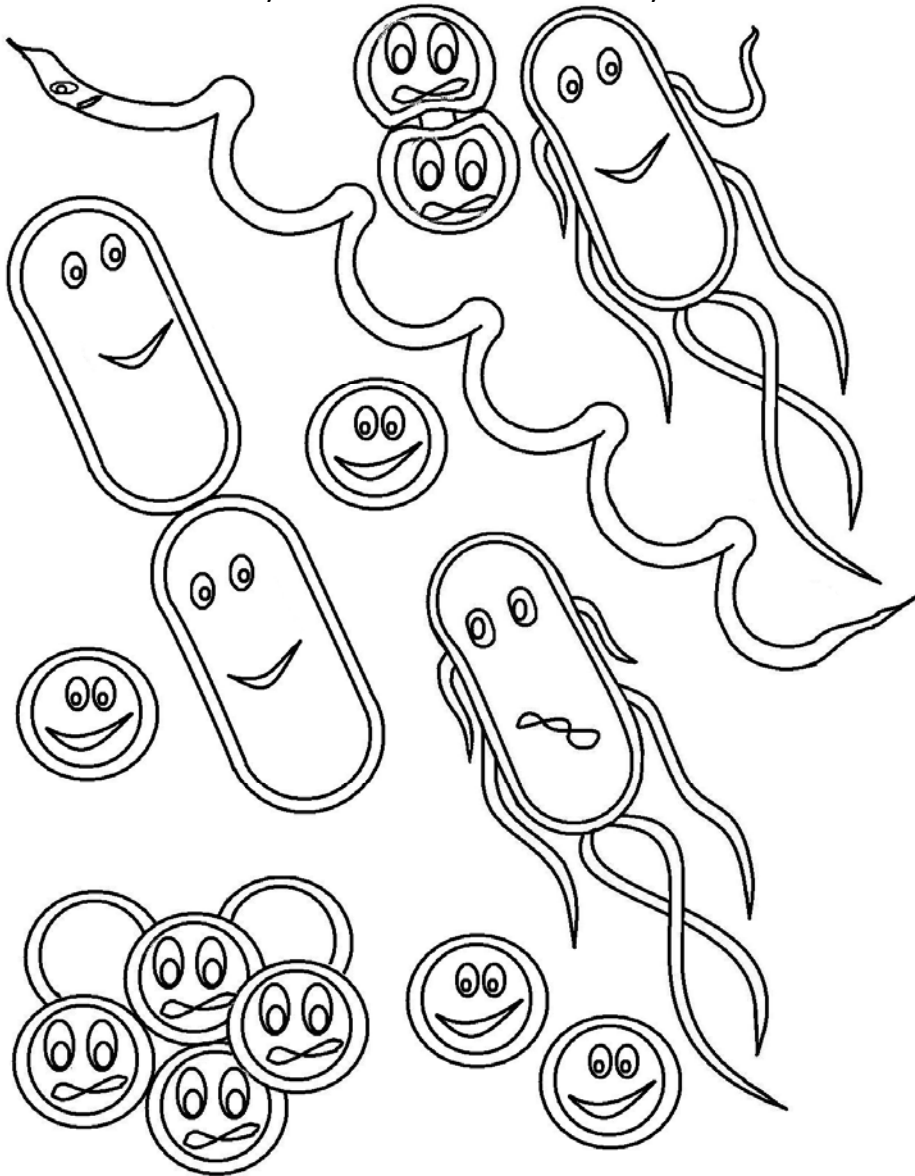
Draw a picture of all the places bacteria or viruses might be:

(ideas: pets, trash can, bathroom, phone, hands, pencils, door handles, and many more places!)



**Bacteria** are living cells.

They get inside your body and use it for nutrition so they can make more bacteria. They can live inside or outside of your cells.



Although they are too small for you to see, they are much larger than a virus.

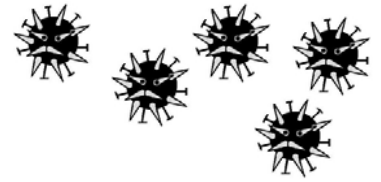
Bacteria are alive and have a cell membrane.

Some bacteria can make you sick with illnesses like strep throat.

Antibiotics are special medicines to help stop the bacteria.

They can help your immune system kill the bacteria.

## Virus WORD SEARCH

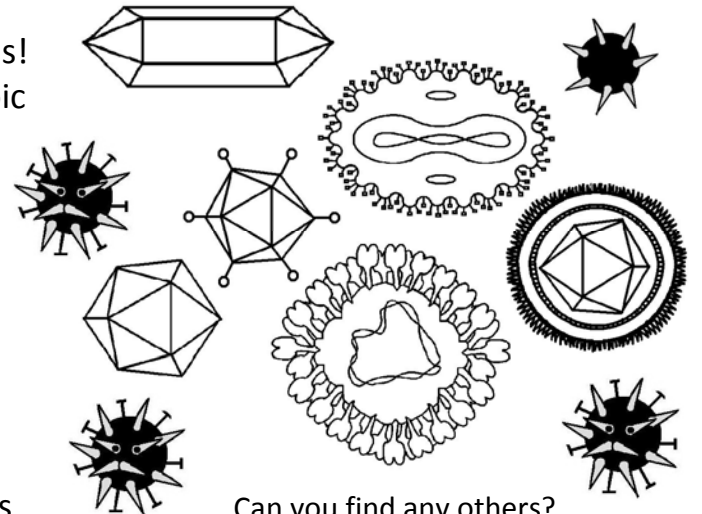


These are words related to **viruses!**

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

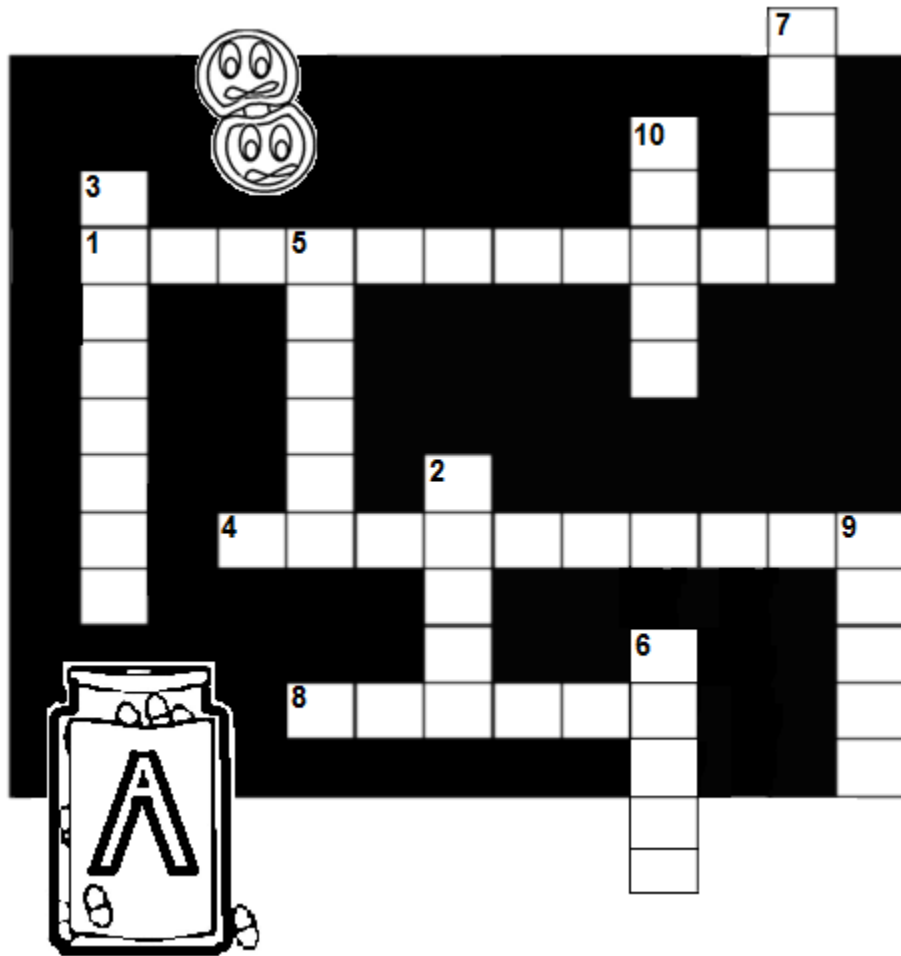
Find all the words!

- Microscopic
- Smallest
- Machine
- Infection
- Germ
- Cold
- Flu
- Tiny
- Sick
- Inside Cells



Can you find any others?

Try this word puzzle to test your knowledge!



- (1 Across): \_\_\_\_\_ do NOT work on viruses.
- (2 Down): The cold and flu are illnesses caused by a \_\_\_\_\_.
- (3 Down): Antibiotics can work to help stop \_\_\_\_\_.
- (4 Across): \_\_\_\_\_ means your medicine will not work on the bacteria anymore.
- (5 Down): Your \_\_\_\_\_ system helps you fight off infections  
caused by (6 Down) \_\_\_\_\_.
- (7 Down): Something that can keep germs out is washing your \_\_\_\_\_!
- Cover your cough with a (8 Across) \_\_\_\_\_,  
your (9 Down) \_\_\_\_\_,  
or your (10 down) \_\_\_\_\_.

If you get sick the best things to do are:

- ✓ drink fluids
- ✓ rest quietly or sleep at home
- ✓ visit your doctor

Your doctor can find out which type of germ you have. Your doctor has experience with germs and may try to see them with a microscope.

Germs are so small they can't be seen except with special equipment, but when you are sick you can feel them!



Your doctor can find out if medicine can help stop the germs. It takes special medicines to stop germs!

If you have bacteria making you sick your doctor may find an antibiotic that will help you get rid of them.

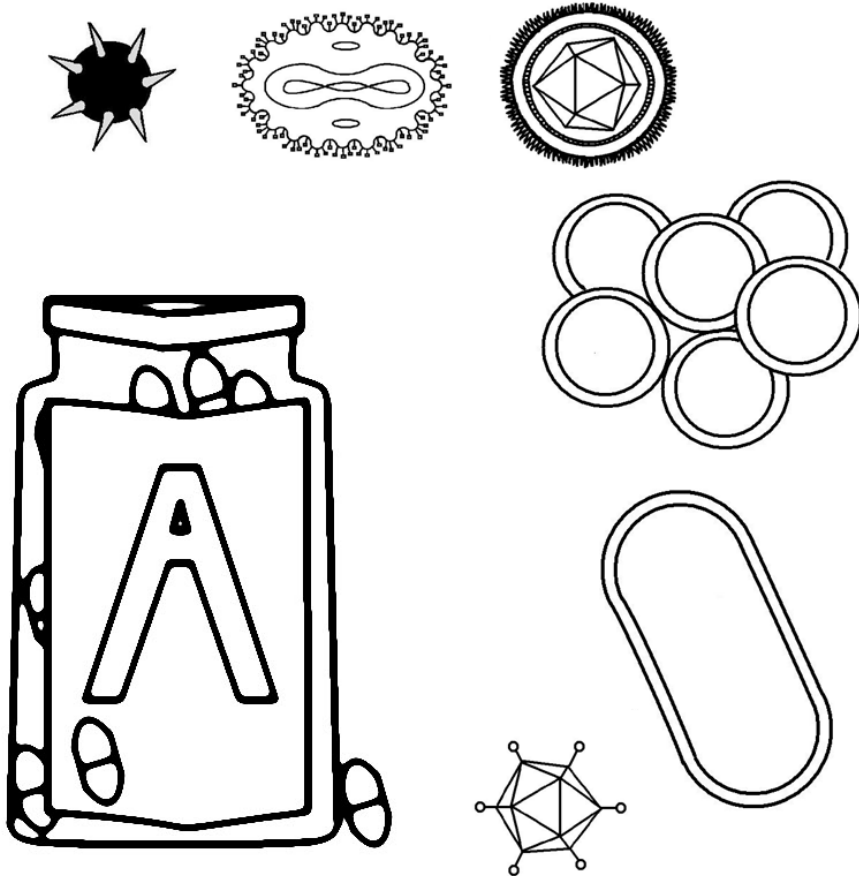
Antibiotics work to stop the bacteria inside you.

The word itself means “against live bacteria”.

There are many different types of antibiotics and they work to stop bacteria in different ways.

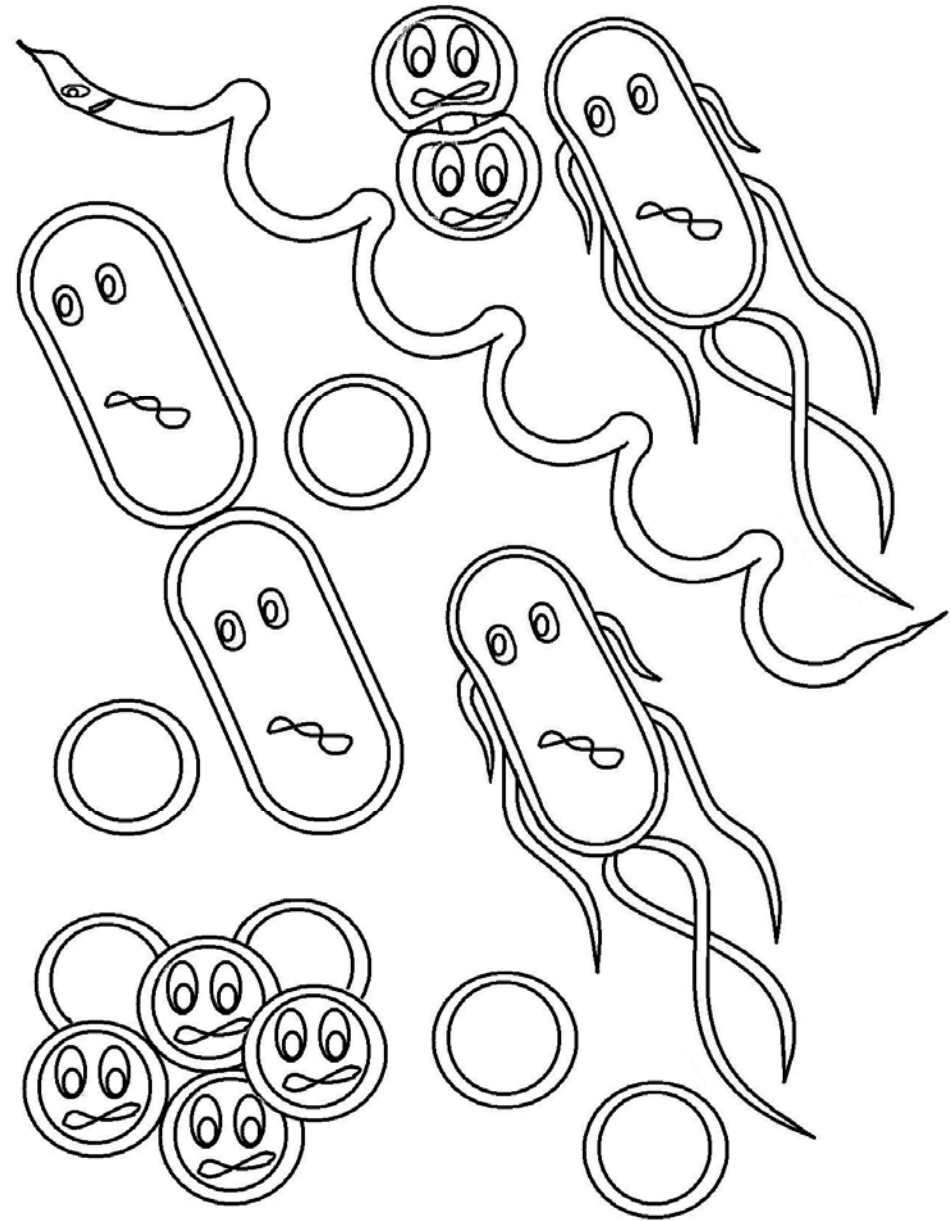
They **ONLY** work on bacteria!

Draw a line from the antibiotic to the germs they may work on:



If you take antibiotics when you don't need them you might kill your good bacteria or have bad side effects from medication you don't need.

Even worse, bacteria are so tricky they will learn to avoid the medicines if you use them incorrectly!



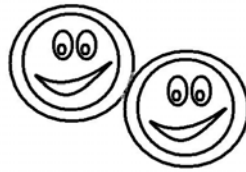
Other bacteria take advantage of you and make you feel sick!

They infect new people when you cough or sneeze or sometimes through touch, or when you share things you have touched.

They usually get inside your body through your mouth, nose, ears or small cuts in your skin!

# Bacteria WORD SEARCH

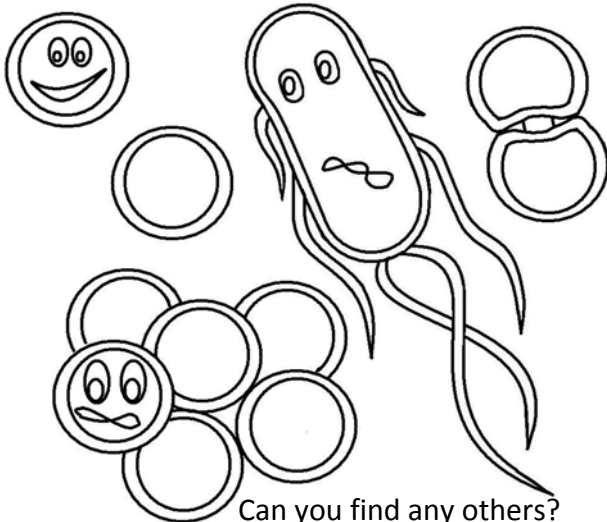
These are words related to **bacteria**!



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

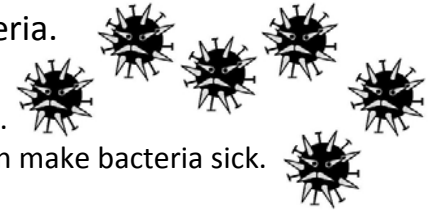
Find all the words!

- Microscopic
- Living
- Infection
- Cell wall
- Membrane
- Germ
- Good
- Bad
- Tiny
- Rounded
- Sick
- Antibiotic



Can you find any others?

**Viruses** are different than bacteria.



Viruses are much smaller than bacteria.

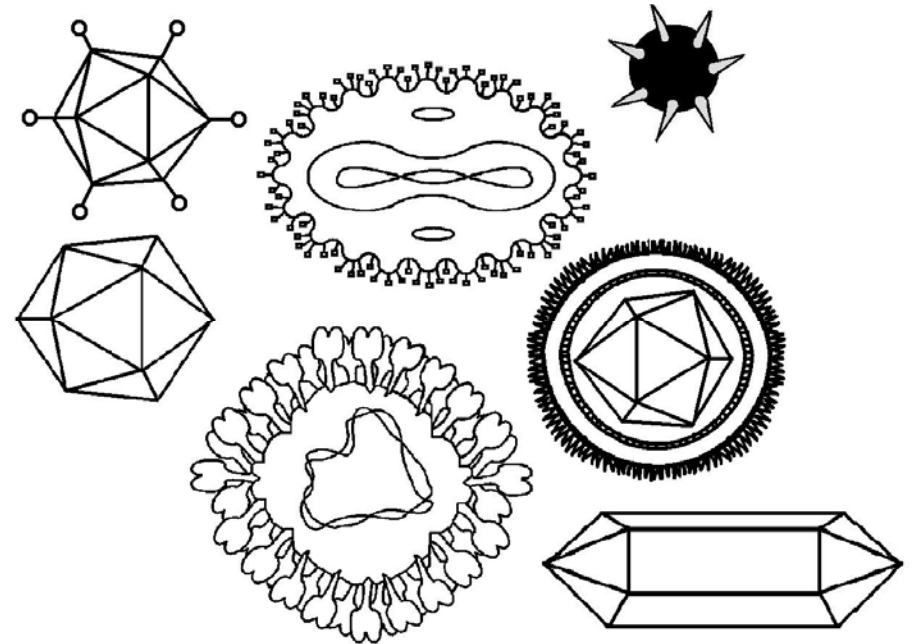
There are even types of viruses that can make bacteria sick.

They are like small machines that get inside the cells of your body.

They get into your cells and automatically replicate!

There are not as many things inside a virus.

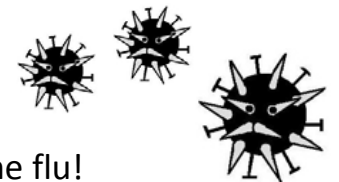
They look like geometric shapes and may have bumps or small things on their surface.



A virus does not have a cell membrane, but they do use parts from living cells to make their form and can do a very good job resembling something alive.

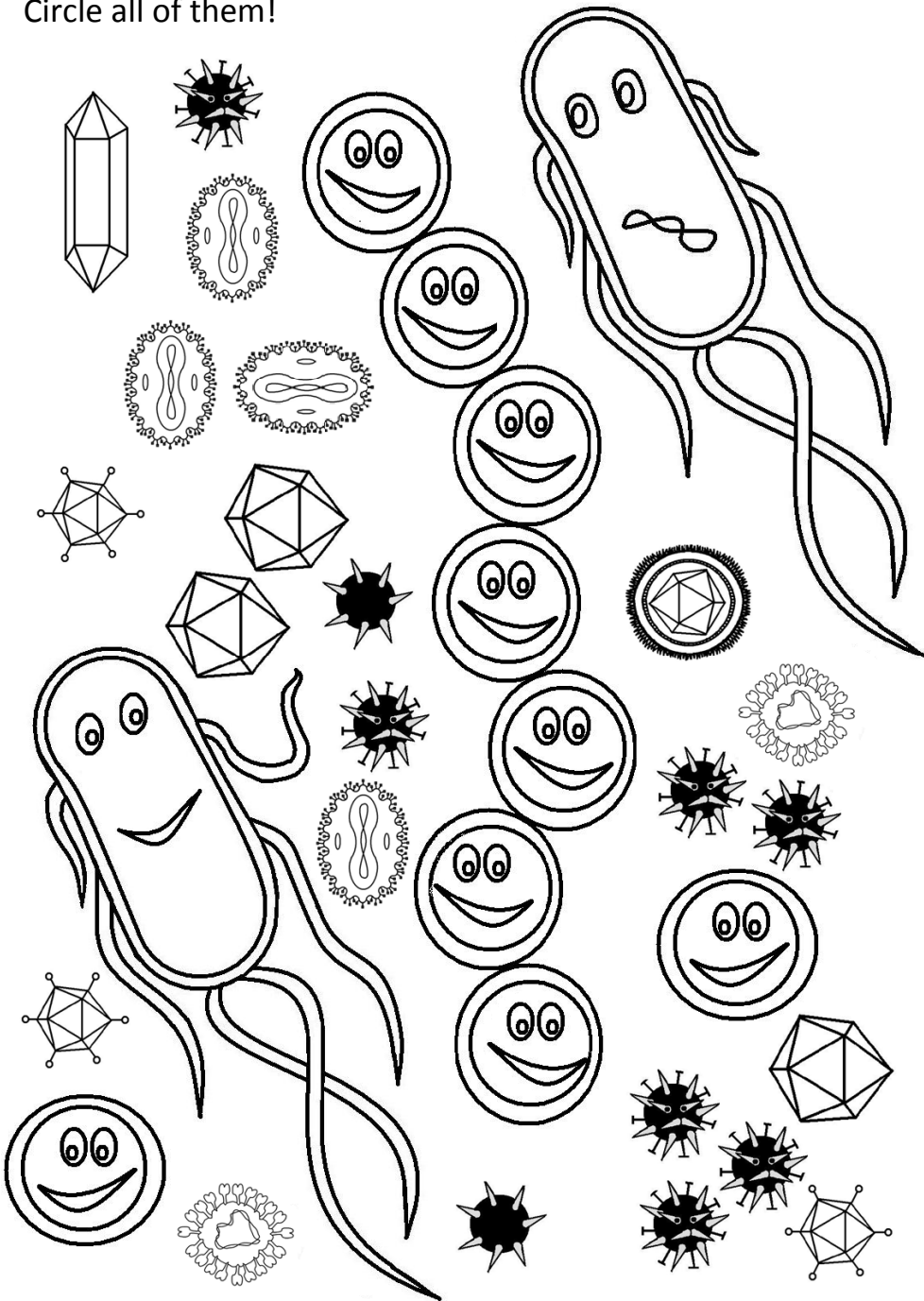
Antibiotics do NOT affect them!

They cause illnesses like the cold or the flu!

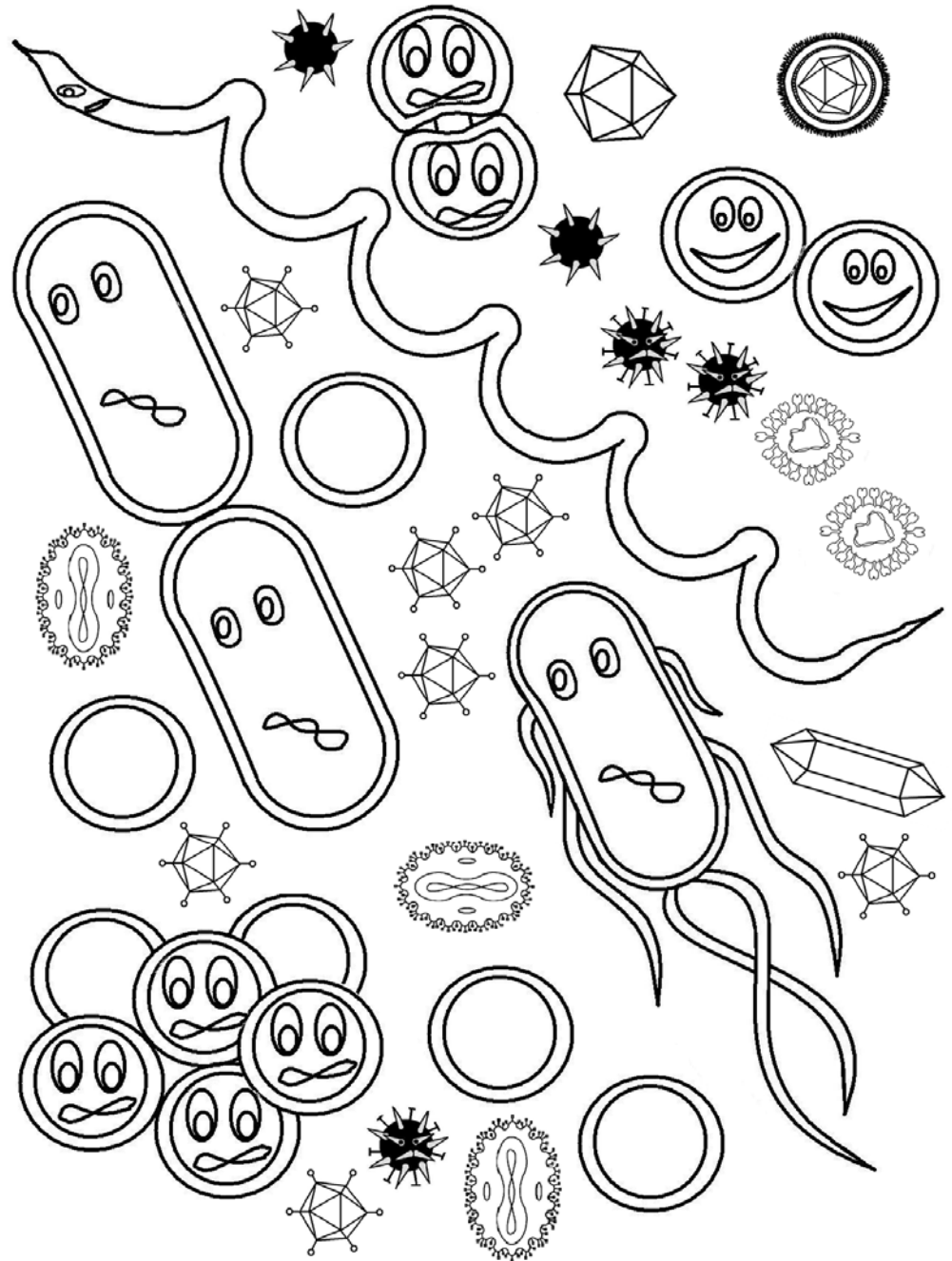




Can you tell which ones are the bacteria?  
Circle all of them!



Color all the pictures.  
Put an X on all the images that look like viruses.  
These are the ones antibiotics would NOT work on!

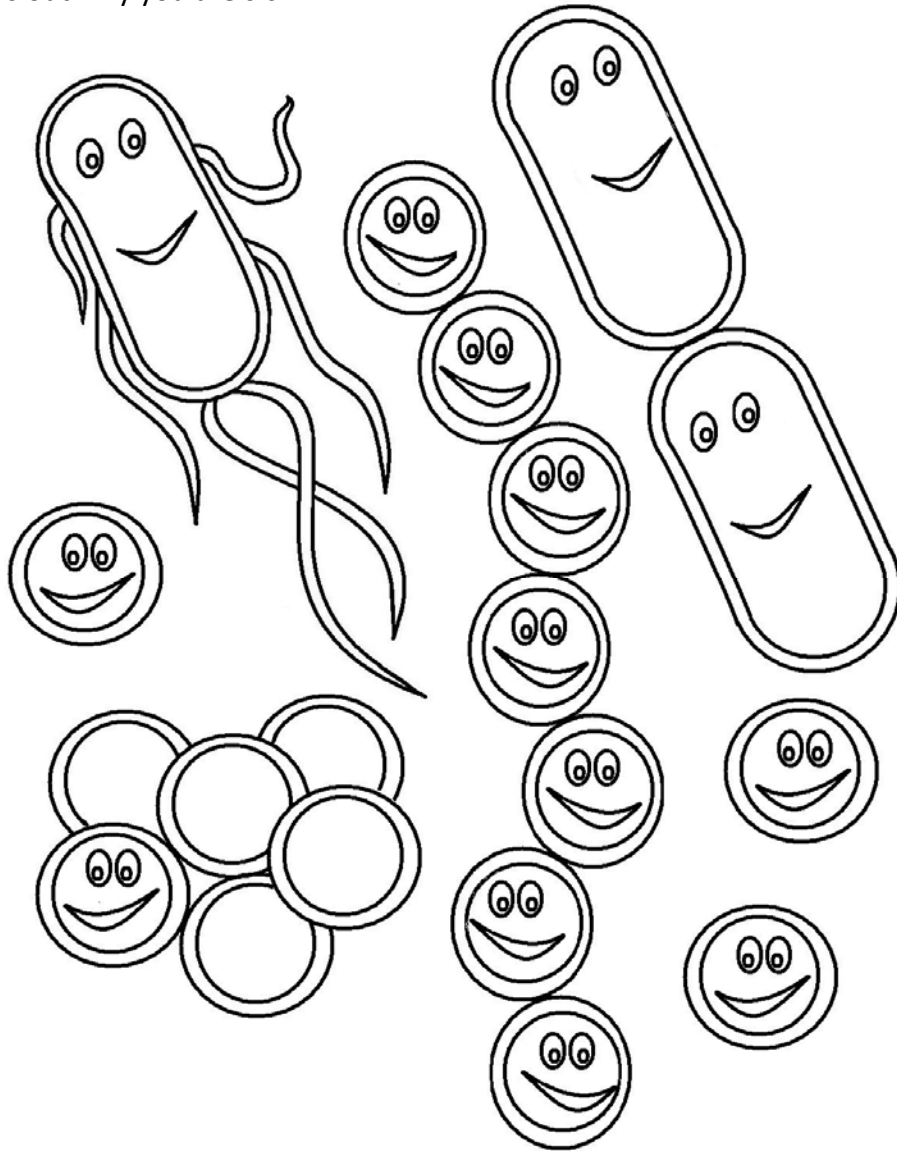


## Bacteria are everywhere!

They are the most numerous living things on the planet.

There are good bacteria and bad bacteria.

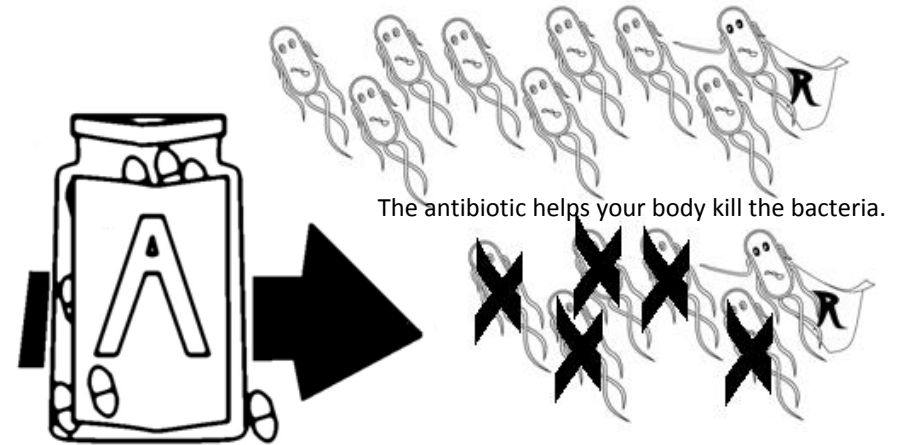
Your doctor will let you know which medication you need when he finds out why you are sick.



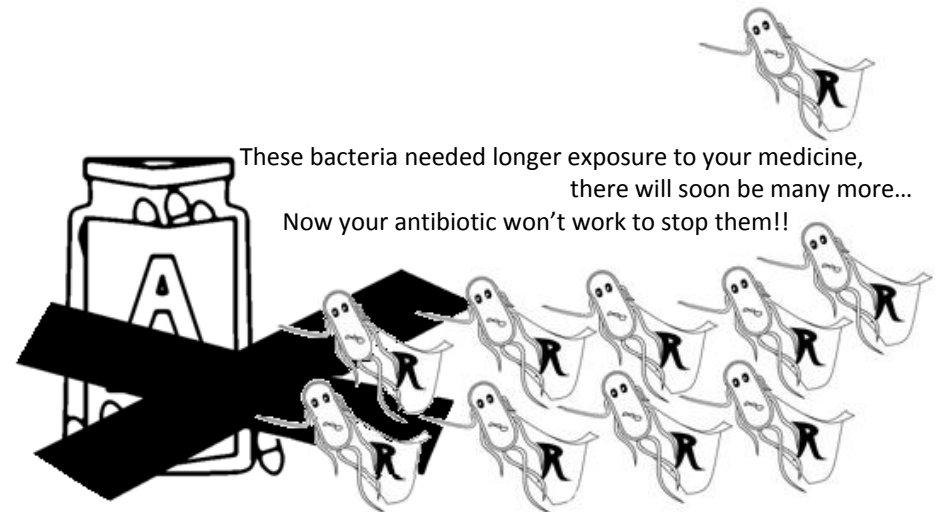
Some bacteria help you by living inside of you or on your skin. They can help digest foods, can protect you from bad bacteria, and are even used to help make some of the foods you eat.

If someone misuses antibiotics, bacteria develop what we call “antibiotic resistance”.

This means the antibiotic that normally stops the bacteria no longer works on them!



If you stop your antibiotic early the bacteria that were less affected may still be there!



The antibiotic-resistant bacteria might make you sick again or infect somebody else. They will be more difficult to kill because the antibiotic does NOT work on them anymore.

Some of them are so resistant we call them “Superbugs”, which means they are resistant to multiple antibiotics. They can be very difficult to stop when they infect someone!