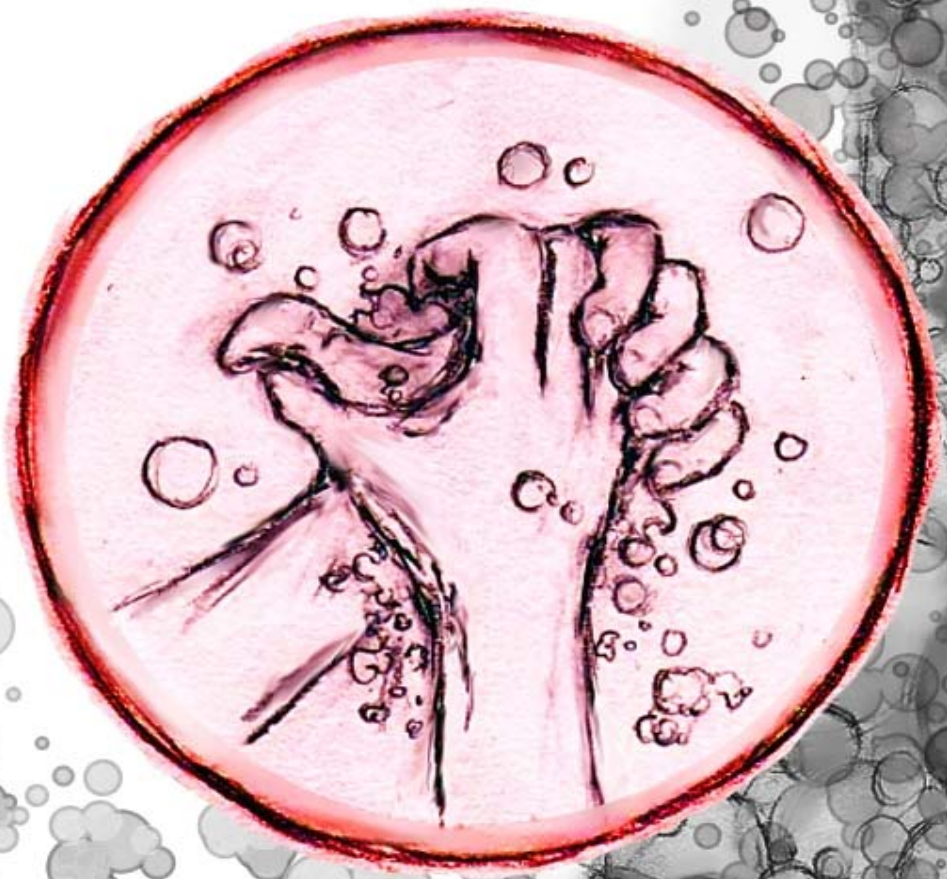
AWARE
Alliance Working for Antibiotic Resistance Education
a project of CA Medical Association Foundation

Wash the Germs Away!

Training Packet



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Introduction to Wash the Germs Away

Germs are everywhere and the sharing of germs is most often present in childcare settings due to close contact and children's natural desires to explore. The easiest, most effective way to keep germs at bay and stay healthy is to ensure students are washing their hands often and properly. A study conducted at an elementary school in Rosemont, Pennsylvania reported that children who washed their hands and/or used alcohol-free, instant hand sanitizers were 50.6% less likely to be absent due to illness (American Journal of Infection Control, 2002).

Wash the Germs Away is a 45-minute health education lesson plan and is part of the California Medical Association Foundation's AWARE Project (Alliance Working for Antibiotic Resistance Education). It was created to teach children: 1) the characteristics of germs, the relationship between germs and sickness, and the ways in which germs can spread; 2) proper handwashing technique and when it is important to wash hands; and, 3) the difference between antibiotics and over the counter medication, the right way to take antibiotics, and the concept of antibiotic resistance. The lesson targets 3rd grade students; however, it can be adjusted to meet the background knowledge of each classroom.

Wash the Germs Away meets the Health Framework for California Public Schools. The lesson plan focuses on how children's sanitary practices, such as properly washing their hands, can have a huge impact on preventing the spread of diseases. It teaches children that by making good health-related decisions, they can have significant control over their health.

As the rate of antibiotic resistant infections increases, it has become even more important to prevent infections before they start by emphasizing proper handwashing and hygiene. In 2004, nearly 2 million people acquired bacterial infections while in the hospital and approximately 70 percent of the bacteria that caused these infections were resistant to at least one of the drugs commonly used to fight them (Infectious Diseases Society of America, 2004). In the last few years, the staph infection known as MRSA (methicillin-resistant *Staphylococcus aureus*) has emerged in places such as gyms, jails, and schools. The proportion of MRSA infections increased from 29% in 2001-2002 to 69% in 2003-2004 (Journal of Emerging Infectious Diseases, 2005).

Wash the Germs Away provides students with valuable information they can use now and in the future to stay happy and healthy. Once empowered with this preventive health knowledge, the hope is that these children will in turn teach their own family members and carry this knowledge throughout their own lives.

Getting Ready to Teach!

Introduction

This lesson was designed for volunteer student instructors from high schools, colleges, or medical & pharmacy schools to teach elementary students the basics about what germs are, proper handwashing, and proper antibiotic use. Alternatively, a classroom teacher could use the lesson materials provided in this packet as part of a health education curriculum. **Getting Ready to Teach** is designed to guide the student volunteer leader through the process of recruiting and training volunteer instructors. If this section does not apply to your needs, you can skip directly to the next section **In the Classroom**. All instructions given in this packet are suggestions, not requirements! Please adjust the process of training instructors and of teaching the lesson to best meet the needs of your school, the volunteers, and the elementary school classrooms in your community.

The suggested number of instructors for each classroom instruction is **three**. The lesson is easily divided into three main sections: 1) germs, 2) handwashing, and 3) antibiotic use. Having each of the three instructors to teach one section helps students to remember the main messages and distinguish between the different topics with the introduction of each new instructor. Furthermore, having three instructors allows the instructors to rotate between various tasks: teaching the lesson, writing vocabulary words on the board, running the overhead projector, handing out student materials, and floating around the classroom.

How to Recruit Instructors

One method of recruiting volunteer instructors is to go through existing volunteer placement organizations on the high school or college campus or at a public service resource center. Posting fliers with an email contact or orientation meeting date around the campus or in health sciences buildings may be another good way to find instructors. Another possibility is to set up a table at a student orientation or activity fair. For high school student instructors, the lesson can be taught through community service requirements or in after school programs. A large group of volunteers is not necessary for teaching this lesson in the community. Between three to six well-trained and dedicated instructors is more than enough. The optimal number of volunteer instructors varies depending on how many times a week this lesson will be taught. The lesson also does not have to be taught by biology majors or pre-medical students. However, instructors should have strong background knowledge of bacteria, viruses, antibiotic resistance, and preventive health

practices that exceeds that of the upper grade school level. Instructors should prepare themselves to answer student questions knowledgeably and to locate information resources. Supplementary Resources for Teachers, Parents, and Children (pg. 39) and the AWARE website www.aware.md are great resources for instructors to build their knowledge of the topics covered in *Wash the Germs Away*.

How to Train Instructors

Once several students have expressed interest in teaching the lesson, you may want to hold an orientation/training session. The purpose of this hour-long session is to introduce instructors to the lesson and to teach them how to teach the lesson. If funds are available, providing snacks is always a great incentive for students to attend!

Start the session by giving a general background description of the lesson and AWARE Project: length of time (45 minutes to one hour long), age group, and objectives and main messages. Mention some of the activities and describe the role and commitment of the instructors. Talk to the instructors about how the most important factor in the successful teaching of *Wash the Germs Away* is the ability of the instructors to assess and adjust to the understanding level of the students and to get the students excited about the lesson topics. Bring copies of the Lesson Plan Outline, Extended Lesson Plan, Spread of Germs Game, along with some props such as overhead slides, Glogerm®, and game cards for the instructors to see. After giving an introduction, hand out a copy of the extended and outline version of the lesson plans, and review the three main parts and activities (I & II Germs, III Handwashing, and IV & V Medication use). Give the instructors some time to read and familiarize themselves with the materials.

Have the instructors form groups of three. You, as the volunteer trainer/leader, can act as one of the three instructors in a group if needed. Divide up the lesson for each instructor to teach one part: 1) Check for Background Knowledge and What are Germs?; 2) Proper Handwashing; and, 3) Taking Antibiotics the Right Way. The third section on antibiotic use does not have to be taught in every classroom depending on time availability and the level of student comprehension of the topic. It may be more valuable in some classrooms to focus on the core topics of what germs are and proper handwashing. As a group, the instructors should practice the lesson out loud from top to bottom, pretending that the other instructors are the elementary students. The instructors should practice the entire lesson including posing questions to the class and miming the activities without the props. After running through the lesson, read the top 10 teaching tips (pg. 13) and give

time for questions. Another suggested activity is to have each of the instructors research one of the three main topics of the lesson, using the supplementary resources list (pg. 44) as a springboard. This will prepare the instructors to become "experts" on a particular topic to teach other instructors and to answer questions in the classroom. It may also be helpful to bring copies of a weekly calendar sheet for the instructors to fill out and indicate which 1 1/2 to 2 hour blocks of time they are available to volunteer during the school weekday. Be sure to collect their contact information as well. Now you're ready to teach!

Scheduling Classroom Instruction

To schedule classroom instruction, you will first need to establish contact with the school. At most elementary schools, you will need the approval of the principal before volunteering in classrooms, so it is best to call the main office and talk to the principal about the lesson and ask what the grade level teachers' names are and whether it is ok to contact them. You may want to email or fax them the *Lesson Plan Outline* and the *Introduction to Wash the Germs Away* so they have a better understanding of the curriculum.

In proposing the lesson to the teacher or principal, describe the objective of the health education lesson, mention that it is part of the CMA Foundation AWARE project, that it is a one time lesson that will take about 45 minutes, and that it meets the Health Framework for California Public Schools. It may work best to schedule the lesson before or after recess or lunch or at the end of the school day or end of the week. Once a tentative day and time have been established, it may be helpful to ask the teacher the following questions:

1) What is the total number of students in the class? *(Print out enough worksheets, letter to parents, and handwashing song sheets ahead of time)*.

2) What health education lessons has the class had this year so far? What do you think they already know about germs and handwashing? Do they wash their hands before lunch? Is there soap available in the bathrooms or classrooms for the students to wash their hands with?

3) Is there a board available for us to write vocabulary words on?

4) Is there an overhead projector that we can use for transparency slides?

5) Is there a sink in the classroom?

6) When the curtains in the classroom close, does it get dark enough for glow-in-the-dark materials to show?

7) Can we take pictures or videotape our teaching for instructional purposes? *(It may be helpful to bring a video camera to tape record the instructors in action. It may not be possible to have children in the videotape though because parental consent would be needed. Later, meet with the instructors for a viewing session and to go over the teacher evaluation. This will help you and the volunteers to learn how to teach more effectively.)*

Teaching Materials Checklist

- Pencils
- Paper or hand-shaped cutouts (See Materials Ordering Information pg. 14)
- Liquid hand soap bottle (Does not have to be antibacterial)
- Instant hand sanitizer gel bottle
- Overhead images
- Empty prescription antibiotics and over the counter (OTC) medicine bottles (for OTC it may be helpful to bring brand names that students can recognize)
- Glogerm soap (can be purchased in kits from www.glogerm. com)
- Teacher Evaluation Form

Have enough copies for each student

- Handwashing song sheets
- Worksheet A & B (available in English and in Spanish)
- Letter to Parents (one side English, one side Spanish)
- Spread of Germ Game Cards

In the Classroom: Procedures for Teaching the Lesson
Lesson Plan Outline

Grade Level: 3rd
Subject: Life Sciences & Health
Teaching Time: 45 minutes to 1 hour

Objectives:

- **Understand what Germs are**: Students will learn the characteristics of germs, the relationship between germs and sickness, and how germs are spread.
- **Proper Handwashing**: Students will learn effective handwashing technique and when it is important to wash their hands.
- **Taking Antibiotics the Right Way**: Students will learn the basic difference between over the counter medication and prescription antibiotics. Students will learn how to take medication properly including why it is important not to share antibiotics and why it is important to take antibiotics as directed. Students are introduced to the concept of antibiotic resistance.

I. Check for Background Knowledge
II. What are Germs?
A. "Draw a Germ" activity
B. What germs (bacteria and viruses) look like
C. Good germs versus bad germs
D. Role of immune system, healthy lifestyle, and preventive health practices
III. Proper Handwashing
A. "The Spread of Germs" game
B. The ways in which germs are spread: hands, air, water, food
C. Brainstorm when it is important to wash hands
D. Glogerm® soap demonstration
E. Sing the "Handwashing Song"
IV. Taking Antibiotics the Right Way
A. Introduce the difference between over the counter and prescription antibiotics
B. B. How to take antibiotics the right way and why it is important to do so
1. Do not share antibiotics with other family members or take left over antibiotics
2. Do not stop taking medication even if they feel better
3. Do not take more medication than instructed, follow doctor's prescription
4. Always take any medication under adult supervision
C. Introduce concept of antibiotic resistance
V. Check for Understanding
A. Questions for the class
B. Two worksheets
C. Give letter to parents in English/Spanish, supplementary resource list, & handwashing song to teacher

Extended Lesson Plan

1) When you first arrive at the school, it is important that all volunteers check in with the school secretary and that appropriate sign in and ID badges are obtained. At some schools, volunteers may need security or health clearance in advance including finger printing or proof of TB testing. Please check with the school before arriving as to whether any of these clearances are required.

2)When you first enter the classroom, set up the teaching materials in an easily accessible location. Identify where the front of the classroom is, the blackboard, overhead projector, sink, and light switch. Give teacher the evaluation form to fill out during the instruction.

3) The instructors should introduce themselves to the class. As the first instructor begins to teach the lesson, the other two instructors can set up the teaching materials quietly while listening to student responses to questions to get a sense of the students' background knowledge.

*Challenging words that may need to be defined are in **bold**.*

I. Check for Background Knowledge

**Tip* Tell students to raise their hands quietly if they wish to respond to a question. Choose only a few (three) different students each time to respond to a question to keep the pace of the lesson moving along.*

1. Ask students if they know what germs are or if they have ever heard of germs.

2. Ask students to think back to the last time that they got sick and how they felt. Ask students if they know why they got sick or what they got sick from.

3. Tell students that today they are going to have a lot of fun, play some games, and learn about germs, the importance of handwashing, and how to take medicine the right way.

II. What are Germs?

1. Pass out a sheet of paper (or the hand cutouts) to each student and ask the students to take out a pencil or marker for a drawing activity. Ask the students to draw a germ. You can say, "Germs are things that can make us sick. What do you think something that makes you feel sick looks like? Draw it." Encourage students to use their imagination. Give them four minutes to do this activity, and all three instructors should float around the classroom to encourage students in this creative drawing activity. Next, ask the students to draw a germ the size of a germ. Tell them to quietly compare with the students around them while staying in their seats to see who has the smallest germ. After they compare with their neighbors, ask the students to raise their hands if they think they drew the "smallest germs" in the class and have them draw it on the board (or show their drawing to the class while pointing to the germ). Tell the class that even these germs, that look like a dot, are bigger than germs are in real life. Germs are so small they cannot be seen with the eyes alone and only with a special microscope. Explain that there are two main types of germs

called virus and bacteria, and they come in different shapes (write the words bacteria and virus on the board). Tell the class that later, you will talk about the difference between the types of illnesses caused by virus and bacteria germs and how there are different kinds of medicine to take for the two different kinds of germs.

2. Make sure the students understand that germs are too small to be seen with the eyes. Then ask, "Where do you think germs can be found?" Choose a few students to respond, then establish that germs are everywhere. However, we do not always get sick because some germs are good and help us to stay healthy while others are bad and make us sick. Not all germs are bad for us. Ask students if they have heard of the **immune system** before. The **immune system** are special cells in our blood that fight off and kill the bad germs that get inside our body. Tell students that they can help keep their **immune systems** strong by exercising, eating, and sleeping well.

3. Ask students if they know one way to keep germs away, something that they do everyday. Wait for a student to respond with handwashing and then tell the class that they are going to play a game that demonstrates why handwashing is so important.

III. Handwashing

1. Students will play *The Spread of Germs* game (instructions on pg. 16). After the game, discuss how germs can spread from person to person and from different things their hands may touch. But, just having germs on their hands will not make them sick, the bad germs have to get inside of their bodies first. So, tell the students that they should try not to touch their hands to their mouth, nose, or eyes too often because that is where germs can get inside the body. Ask students if they know other ways that germs can spread. Means of spreading germs include through air, water, and food. Tell students that germs travel through the air when they sneeze or cough, which is why it is important to use tissues to cover their noses and mouths or turn their face away from other people. Germs can also spread when sharing drinks, food, or using the same fork or spoon as others.

2. Ask students if they know why they wash their hands. Have students brainstorm when they should wash their hands.
**Tip* Summarize and repeat student responses out loud and in writing on the board.*
The final list should include: after using the toilet, before preparing or eating food, after playing with animals, after touching money, playing outside, coughing, sneezing, or blowing their nose, and before and after being around sick people.

3. Ask students how many of them think they wash their hands well and in all of the circumstances listed on the board. Ask "Can somebody describe to me what you do when you wash your hands?" Tell students that the best way to wash hands to get rid of the bad germs is with soap and warm water. It is important to wash hands the right way because even if hands look clean, there still may be some bad germs on them because germs are so small that we cannot see them with our eyes.

4. Tell students that the best way to wash their hands is for at least 20 seconds. Tell students that there is a handwashing song they can sing while washing their hands instead of counting to 20. Put the *Wash the Germs Away* Song on the overhead projector (pg. 32). Ask the class to sing it and to pretend they are washing their hands along with you. Point to the lines of the song on the overhead projector so the class can follow along. Ask students if anybody would like a copy of the song to bring home. If students would like a copy of the song, you can give them a song sheet to bring home with the letter to parents. You may also want to give a copy to the teacher to hang over the classroom sink.

5. Tell students that they are going to see a special demonstration of handwashing. For the Glogerm® demonstration, ask for volunteers and choose two students. Tell the class that in the bottle are fake, glow-in-the-dark germs. Spread the recommended quantity of Glogerm® onto the students' hands. Close the curtains, turn off the lights, and have the rest of the class come up in orderly groups of approximately five to see the glowing "germs."
**Tip* Tell the class that you will choose the row or group of students who is sitting most quietly.*
Next, turn the lights back on and ask the two students to go to the classroom sink and wash their hands. Have the class sing the handwashing song while the two students wash their hands. Then, have the two students stand in front of the class again. Close the curtains, turn off the lights, and have the rest of the class come up in orderly groups of approximately five to see the remaining glowing "germs" on the two students' hands. If the activity worked, there should be very few to no glowing germs left on the students' hands. Remind students of the components of good handwashing: warm running water and soap. Instruct students to rub hands together vigorously for 20 seconds, scrub around the fingernails and tips of the fingers rinsing thoroughly, and dry their hands well with a paper towel or hand dryer if available. Tell students that it does not have to be antibacterial soap, regular soap works just as well.

6. Show students a bottle of regular soap and of instant hand **sanitizer** gel. Ask students if they have seen instant hand **sanitizer** gel before. Describe what the gel is, and tell students that they can use it as an alternative to soap sometimes. Make sure students understand that having germs on their hands alone will not make them sick. There are both good and bad germs; not all germs will make them sick. They can get sick if the bad germs from the hands get inside the body such as through the mouth, nose, or eyes and their immune system does not fight it off. Tell students that it is important that they do not touch their face, stick their fingers in their mouth or nose, or rub their eyes too often. And, if they have to, try to wash their hands first!

IV. Taking Antibiotics the Right Way
1. Tell students that even if they wash their hands well, exercise, sleep, and eat well, sometimes they still might get sick and that is normal and it still means that they are healthy. But, washing their hands the right way will help them to catch fewer colds and get sick less.

2. Ask students what the two main types of germs are (point to **bacteria** and **virus** written on the board as a hint if necessary). There are two ways to get sick from germs, and they are **bacterial** and **viral infections**. Sum up the difference as **bacteria**-caused sicknesses are treated with

antibiotics, and **viruses** such as the cold and flu are treated with **over the counter medicine** (draw connections on the board). For a **virus**, the body's **immune system** can usually get rid of it after a few days by itself. Ask students if they have heard of the word **antibiotic** before. You can explain **antibiotics** by the prefix and root of the word: anti=against, biotic=living thing, in this case germs. **Antibiotics** help the body's **immune system** to fight **bacteria** that gets inside the body. Tell the students that **antibiotics** are not necessary every time they get sick, only when a **bacteria** germ causes their sickness, which only their doctor can determine. Tell students that they should never take medication on their own, and if they are taking medicine, they must always take it under adult (such as a parent or school nurse) supervision. Also, the best thing to do when they are sick is to get plenty of rest.

3. Tell the students that if they see a doctor when they are sick, their doctor may give them a sheet of paper called a **prescription** and it may be for **antibiotics**. Not all medicine is an **antibiotic**, but a **prescription** from a doctor is necessary to get an **antibiotic** from the pharmacy (show overhead slide of **pharmacy** counter if desired). Instruct students that they can also get **over the counter medicine** from the **pharmacy** for **symptoms** of **virus**-caused sicknesses such as sneezing, coughing, or a fever. Name a few commonly known brand name **over the counter medications** (bring empty, unlabeled bottles to show the class), and explain how you do not need a **prescription** or need to go to the **pharmacy** to get **over the counter medicine**. Remind students that for any type of medication, they should always take it under adult supervision because if medicine is taken the wrong way it might make them sicker.

4. Tell students that when they get an **antibiotic prescription** from their doctor, it is important they take the **antibiotics** the right way. Emphasize that when taking an antibiotic, the only way to make sure all germs are "killed" is to:

1) Finish the entire bottle of the **antibiotic** if that is what the doctor or **prescription** label instructs. Do not stop taking medication when they feel better, even if it does not taste good because they may not recover from their sickness fully.
2) Never take more medication than the doctor **prescribes**. Taking more medicine will not help them get better faster and might actually make them more sick.
3) Do not use leftover or expired **antibiotics** from the last time they were sick or share **antibiotics** with other family members. Ask the class why they think it might be bad if they share **antibiotics** with other family members who are sick.

5. Explain that another reason it is bad to use **antibiotics** the wrong way is because **resistance** can develop. **Resistance** is when an **antibiotic** no longer works against certain types of germs because people did not take **antibiotics** the right way. So, only the "weak germs" were killed by the **antibiotics**, and the strong ones were left to grow, multiply, and change so the medicine does not work as well the next time it is used.

IV. Check for Understanding

1. To check for students' comprehension of the lesson, ask some review questions.
**Tip* Repeat out loud and summarize students' responses to each of the questions.*
Suggested questions:

- How big are germs?
- Where can germs be found?
- What are some ways to prevent yourself from getting sick?
- Describe the right way to take **antibiotics**.
- How do we wash our hands the right way?
- When is it important for you to wash your hands?

2. Repeat main messages of the lesson that were not covered in responses to questions. Include the messages that: germs are too small to see with your eyes; there are two main types of germs called bacteria and viruses; bacteria sickness is treated by antibiotics, and virus sickness is treated by over the counter medicine. Review proper handwashing technique and when to wash hands.
Review the right way to take antibiotics and how they should never take any kind of medication without a parent, nurse, or another responsible adult supervising.

3. Depending on the amount of time available, students can work on the two worksheets. Tell students to put their name and the date at the top of the worksheet. Lesson instructors should float around the classroom to help students understand the concepts on the worksheet. Tell students to raise their hands if they have any questions.

4. Get the teacher evaluation form from the classroom teacher. Give the teacher enough copies of the letter to parents and handwashing song for the students to bring home.

Top 10 Tips for Successful Instruction

1. REPETITION. Repeat the main messages, write them on the board, and repeat and accurately summarize so the whole class can hear what students offer as answers to questions.

2. OUTLINE. Write an outline of the lesson on the blackboard including the main parts and activities of the lesson. Check off the parts and activities as you complete them so students can follow along.

3. MAINTAIN ATTENTION OF STUDENTS. Remind students that the instructor will only call on those who are raising their hands and sitting quietly in their seats. If the class is rambunctious, after the instructors introduce themselves, it may be helpful to establish that they will learn a lot of interesting things today and play some fun activities, but it is important that they sit in their seats quietly, listen to and follow instructions, and raise their hands if they have a question.

4. LEARN HOW TO IMPROVE AS AN INSTRUCTOR. After teaching a lesson, instructors should take some time to discuss how they felt the classroom instruction went and share comments on how particular activities worked. It is recommended for the first few teachings that the instructors videotape the teaching and have a viewing and commentary session to watch the video and review the teacher evaluation form.

5. INTRODUCE VOCABULARY WORDS. Repeat the definitions of challenging vocabulary words. Write these words on the board and point when referring to words such as virus, bacteria, immune system, antibiotics, and resistance.

6. BE CREATIVE. Be creative when explaining challenging concepts and getting the students excited about the lesson. For example, one way to explain the word "antibiotic" is to break it down into its root and prefix. "Anti" means to fight against, and "biotic" means a living thing, such as a germ.

7. ACCURACY OF RESPONSES. While it is important to praise and encourage students when they offer responses, if they offer an incorrect answer, gently provide a correct response when summarizing to the class.

8. CHECK FOR UNDERSTANDING. Ask questions to check for understanding and to keep students engaged and following along. But, only allow a few students to respond to each question so you can keep the pace of the lesson moving along. If students are having trouble responding to a question, rephrase the question or give them clues to help them respond.

9. SPEAK UP AND AT THE STUDENTS' LEVEL. All instructors should speak at a volume that is audible to all students and that gets the attention of the class. Do not speak too fast, mutter, or at a vocabulary level that is above that of the students.

10. HAVE FUN!!!

Teaching Materials Ordering Information

1. Glo Germ kits including the Glo Germ oil or powder, UV light, and other Glo Germ products can be ordered from the website www.glogerm.com

Phone: 1-800-842-6622
Glo Germ Company
P.O. Box 189
Moab, Utah 84532

2. 2-Color handprint shaped super cutouts. 36 Die-Cut Shapes. CTP 4866. Creative Teaching Press, Inc., Cypress, CA 90630. Available at teaching supply stores.

3. Jiggle Germs. Club Earth, Cumberland, Rhode Island, USA. www.clubearth.com.
GB U.K. EX23 8QN

4. Helping Hands Mini Stickers. 528 Self-Adhesive Stickers. Teacher Created Materials, Inc., Westminster, CA 92683. TCM 1817.

Evaluation of *Wash the Germs Away!* Instruction

Date: **Instructors' Names:**
School: **Grade Level:** **Teacher Name:**

1. Was the pace and flow of topics in the lesson comfortable and logical?

2. Were the vocabulary and concepts used appropriate for the age and comprehension level of this classroom? Were there any concepts that were covered that seemed too challenging or too simple?

3. What topics of the lesson, if any, did the students seem less engaged or less interested in during the presentation?

4. Which games and activities were most helpful for the students to grasp the main concepts: what germs are, proper handwashing, and proper antibiotic use?

5. What suggestions do you have for the individual instructors? How could they improve their classroom instruction?

6. Did the lesson help fulfill health education requirements for your class? Did the lesson build appropriately on the background knowledge of the students?

7. Any other comments?

Thank you for your feedback!

The Spread of Germs Game Instructions

Objectives

- Students will learn that germs can be found on the hands
- Students will learn that proper handwashing can get rid of germs on the hands that may cause sickness
- Introduce students to the ways in which germs can spread

Materials

- 14 different germ picture sets with six cards on each page (print on colored paper and laminate if they will be reused).
- Handprint sticker or another kind of sticker
- Paper bag or small bucket to draw cards from
- Rubberbands

Set up

- Cut out the six cards of each of the 14 types of germs. Take one card of each type and put it in the paper bag or small bucket. This bag or bucket is for the instructor to draw germ cards out of after the students finish "spreading germs." Put a handprint sticker (or other type of sticker) on the back of ONE of the five cards. A rubber-banded packet of the same five cards will be given to each student.

Instructions

1. Explain to the students that they are going to play a game called *The Spread of Germs*. Pass out a set of five germ picture cards to each student. Tell students that while there are both good and bad germs, the pictures on the cards represent bad germs.

2. Tell students that they should keep the one germ card with a sticker on the back of it on their desk.

3. Explain to the class that they are going to walk around the room and trade their four remaining cards (without a sticker on them) with other students in the class. **Tip* Model the following exchange with another instructor*. First, the student will shake hands with another student and then exchange one card. Tell students that they do not have to trade for a different color card or a different germ, what is important is that they trade cards with four other students.

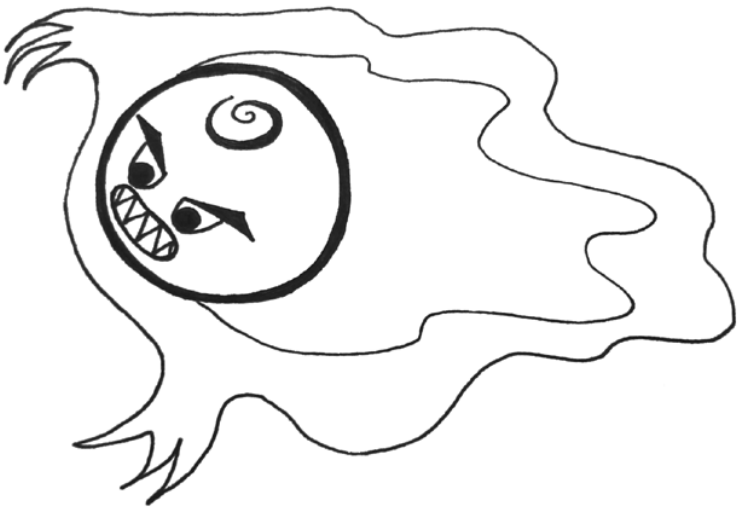
4. Tell students that when they are finished trading, they should return to their desks and sit quietly to indicate that they are ready for the next part of the game.

5. Let the trading of "germs" begin!! During the activity, all three instructors should float around the classroom to help students to complete the activity.

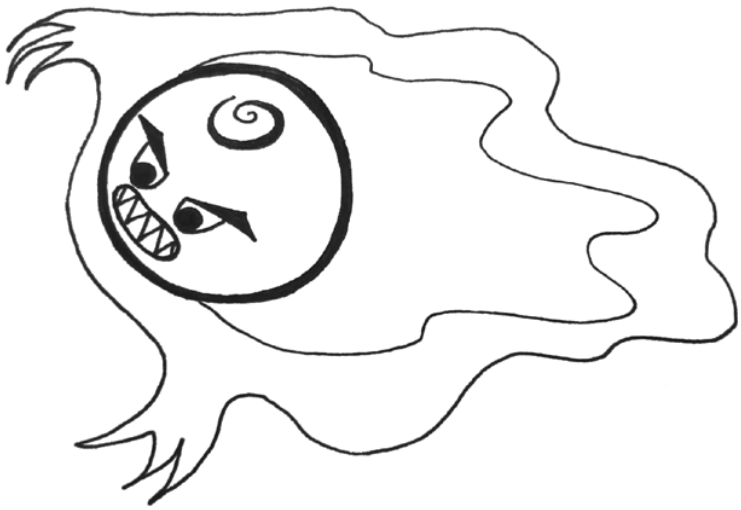
6. After five or so minutes, summon all students to finish trading and return to their seats. Once the students are in their seats again, tell students that you have all of the different types of germs in the paper bag or bucket. You are going to pull two germs out of the bag/bucket that will represent the germs of the two people in the class that did not wash their hands.

7. Pull out two germ cards from the bag and ask the students who started out with these two germ cards to raise their hands. The correct matching germ cards will have a sticker on the back of them. Ask any other students who got the germs through the trading to raise their hands (anybody else who have the same germ card but without a sticker on the back of it). Count the total number of students who "got sick" from the students who started out with the two germs and did not wash their hands well.

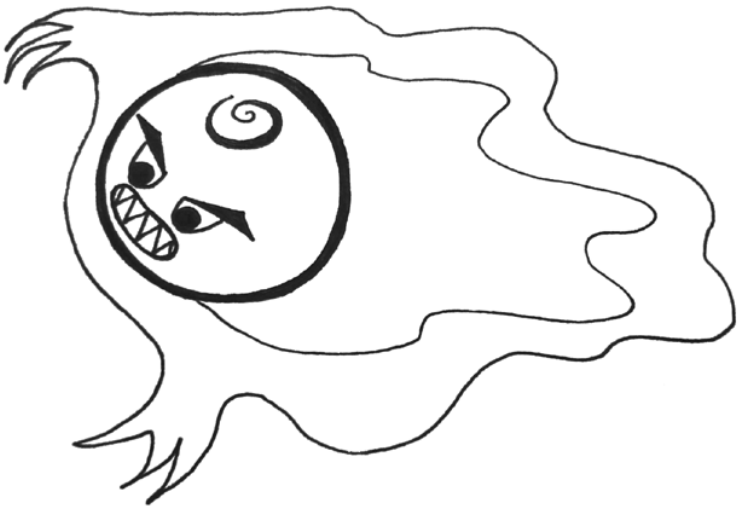
8. Discuss results. Talk about how easily germs can spread from one person to another, especially from the hands. Ask students what they could have done to prevent the spread of germs.



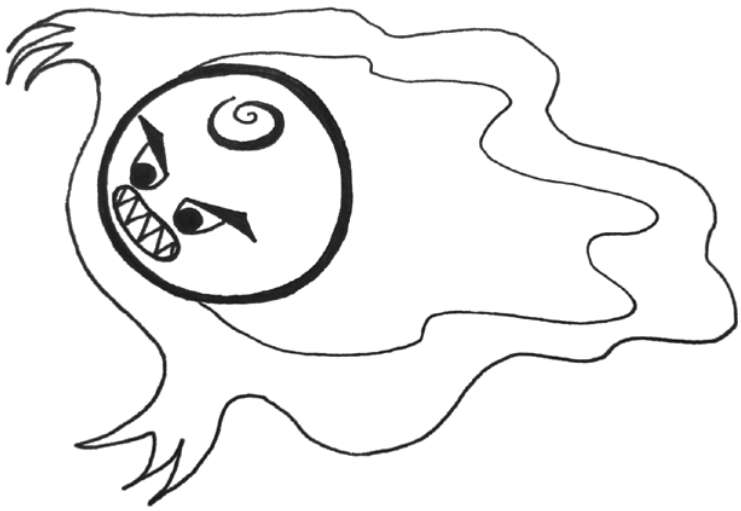
Chicken Pox Virus



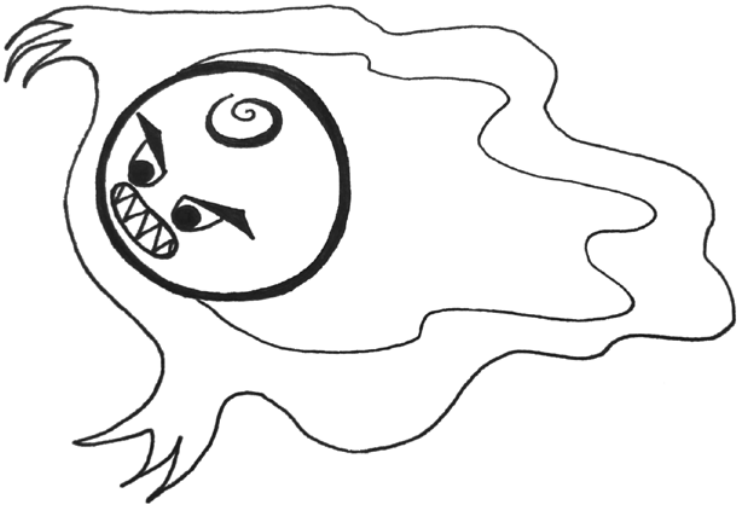
Chicken Pox Virus



Chicken Pox Virus



Chicken Pox Virus



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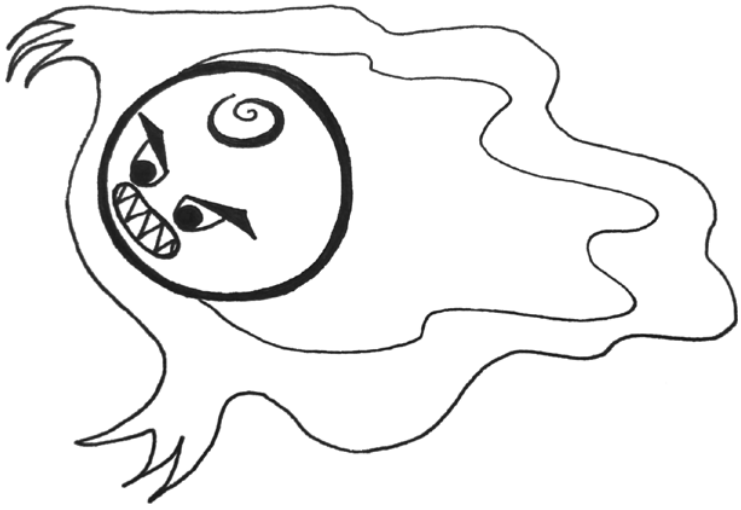


Chicken Pox Virus

Common Cold Virus

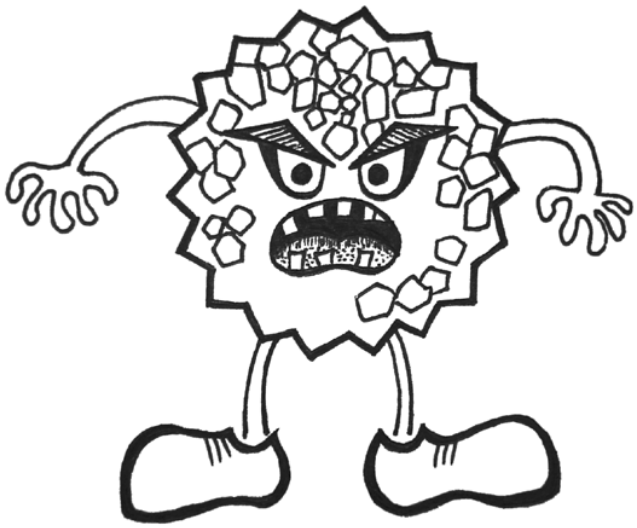
Common Cold Virus

Common Cold Virus

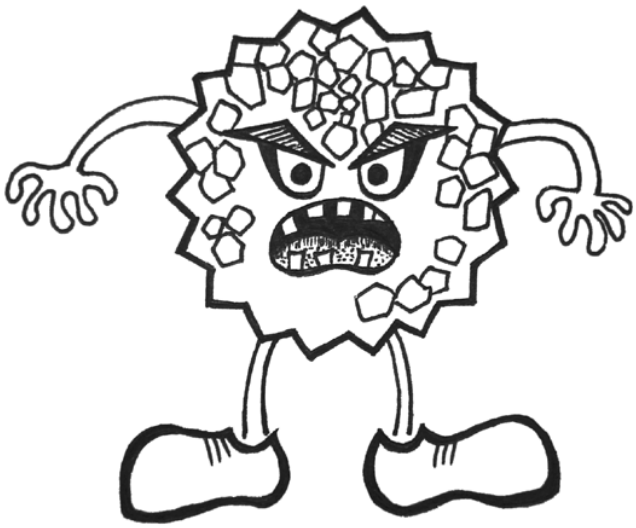
Common Cold Virus

Common Cold Virus

Common Cold Virus



Diarrhea Virus



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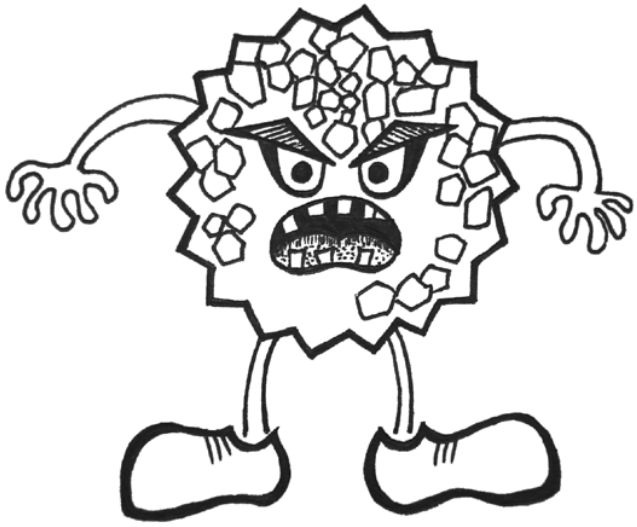

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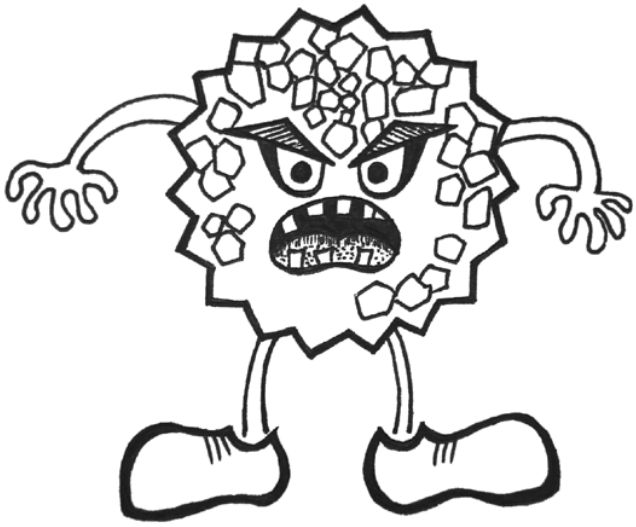

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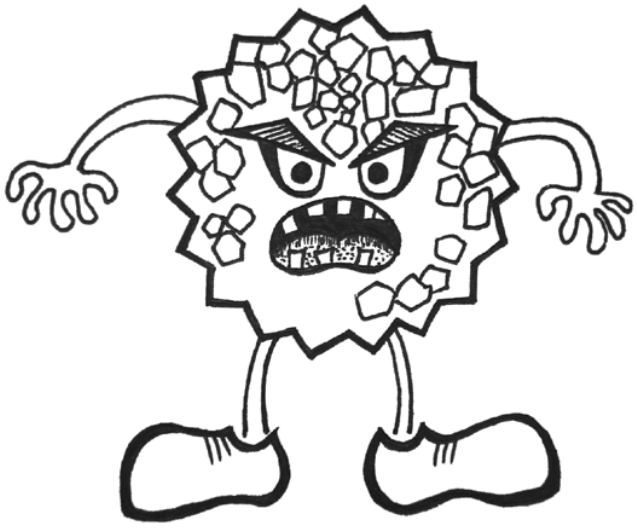

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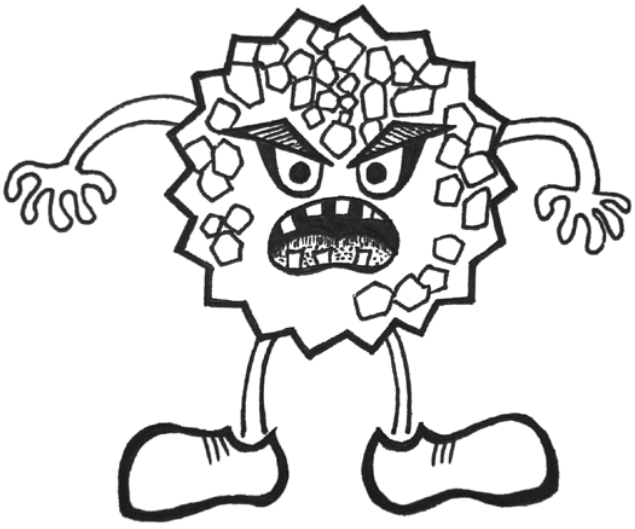

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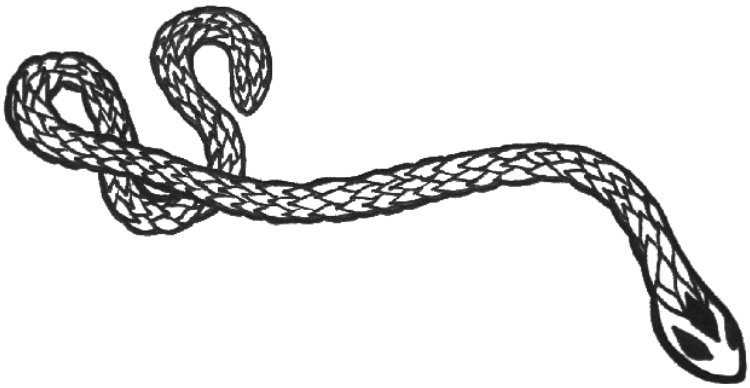
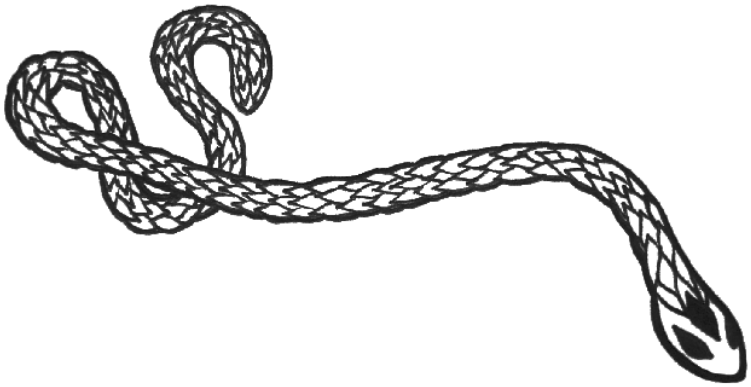


Ebola Virus



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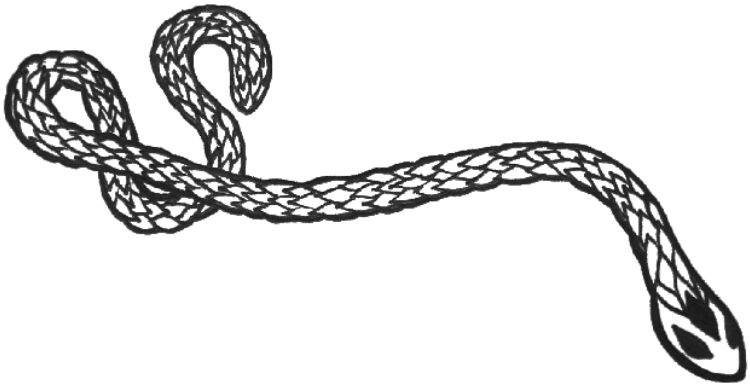

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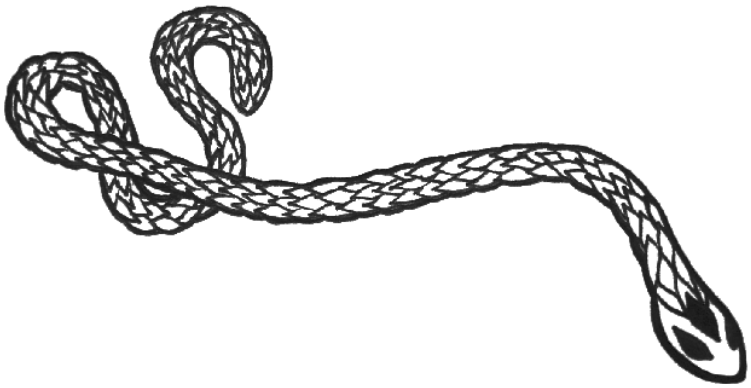

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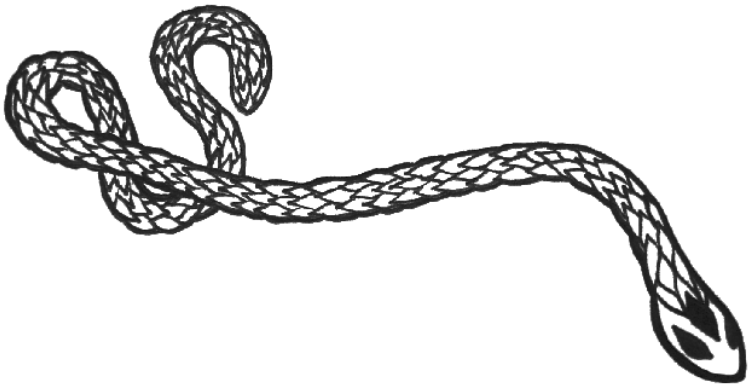

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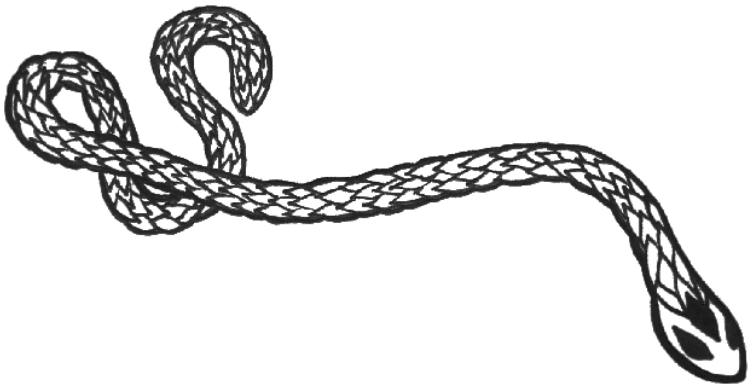

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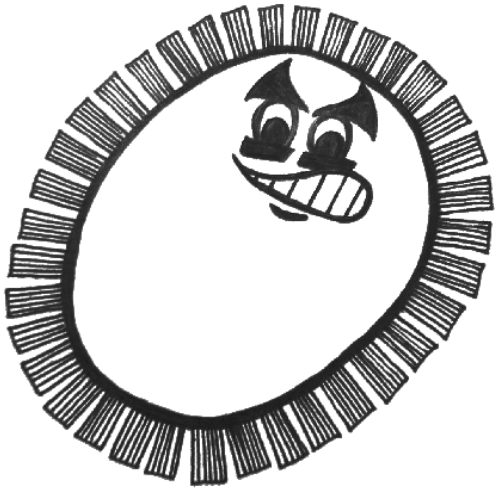
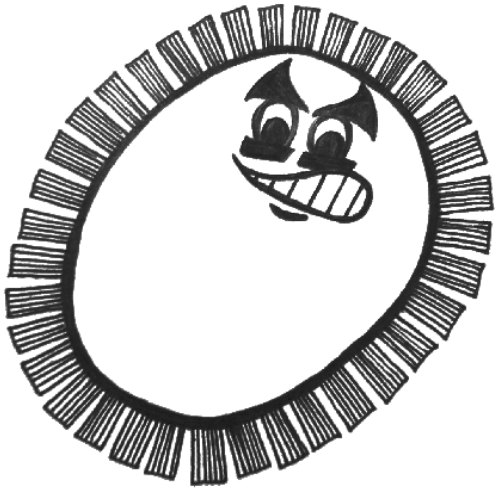
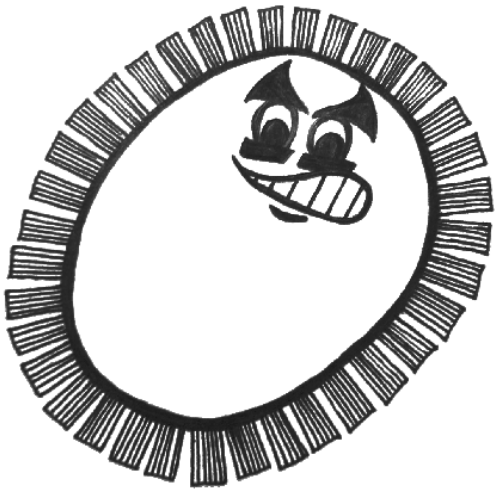


Flu Virus



Flu Virus



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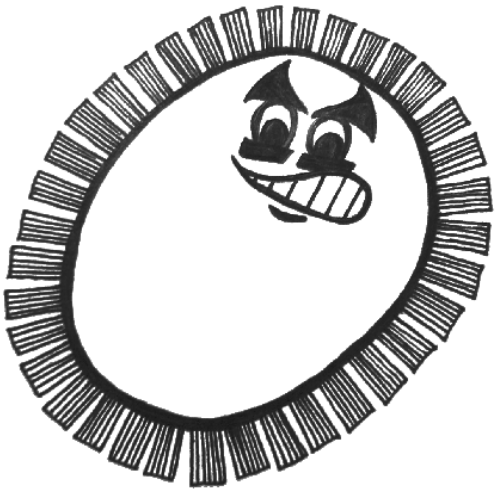

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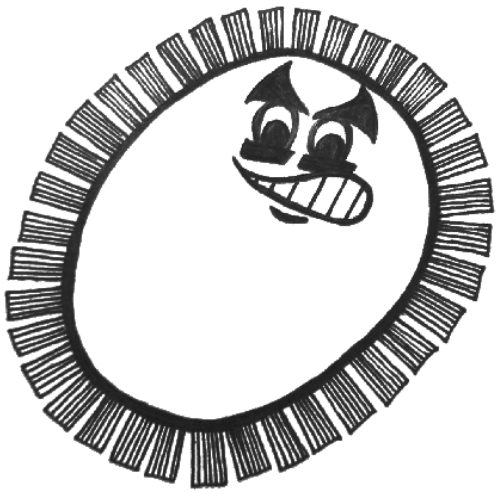

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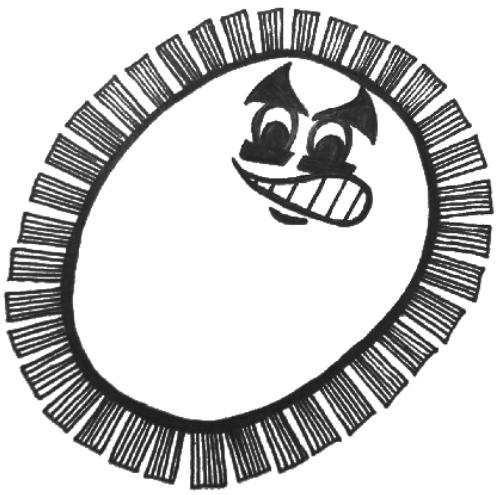
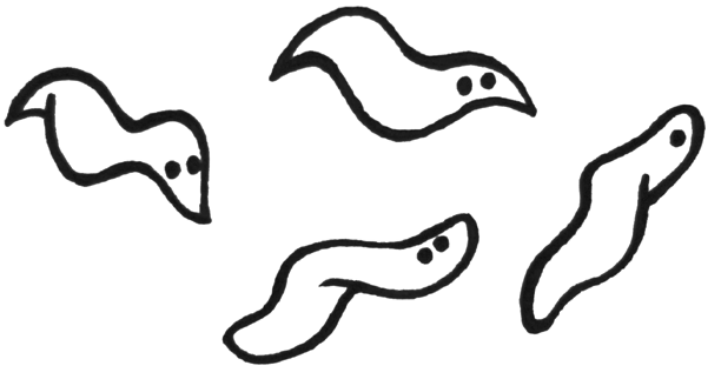
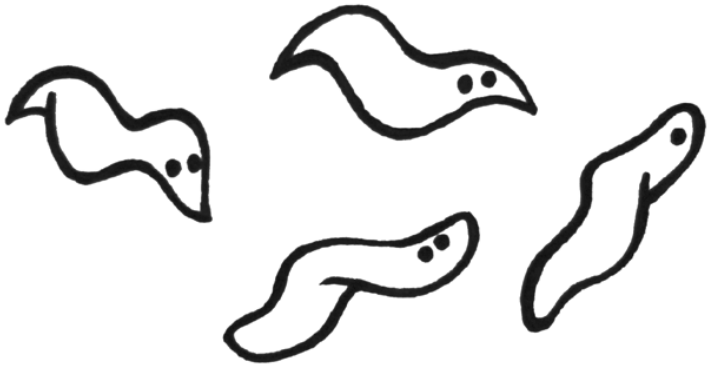


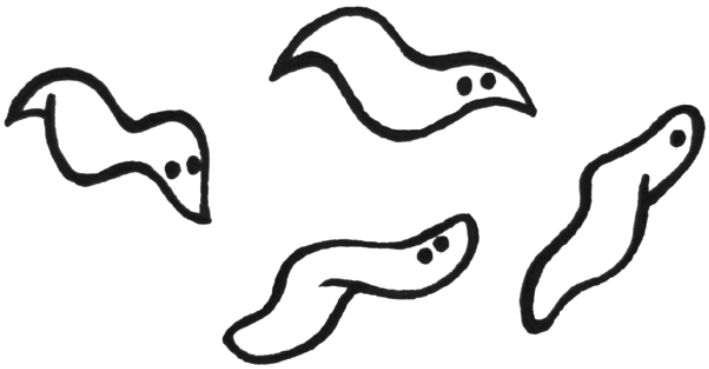
Flu Virus



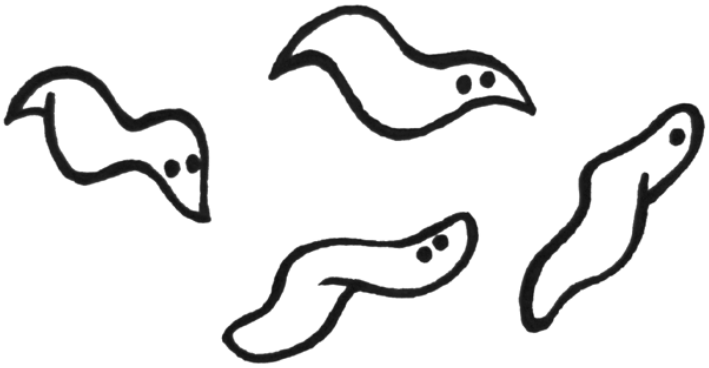
Food Poisoning Bacteria



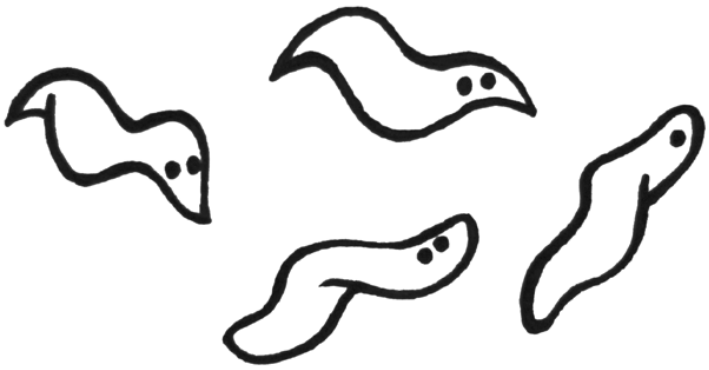
Food Poisoning Bacteria



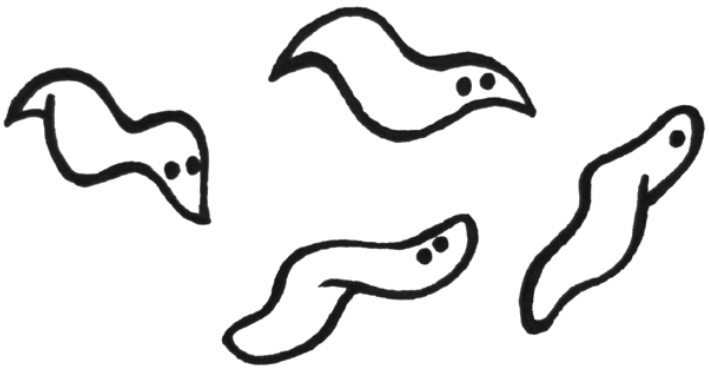
Food Poisoning Bacteria



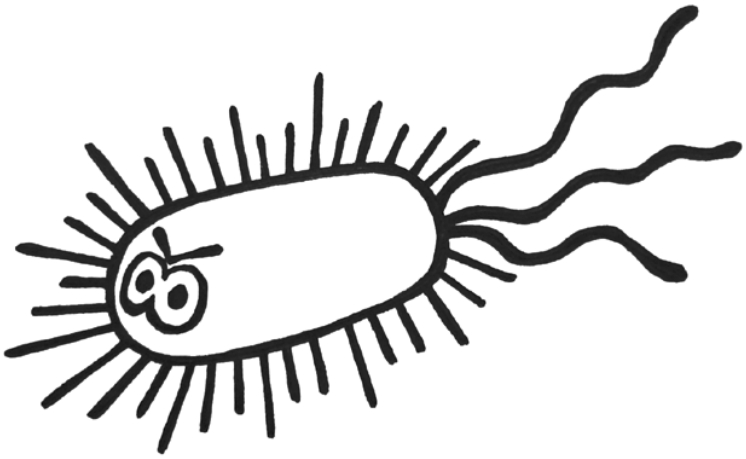
Food Poisoning Bacteria



Food Poisoning Bacteria



Food Poisoning Bacteria



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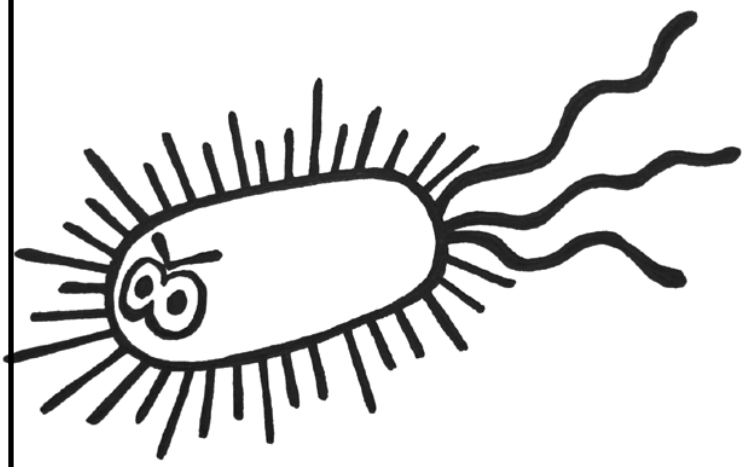

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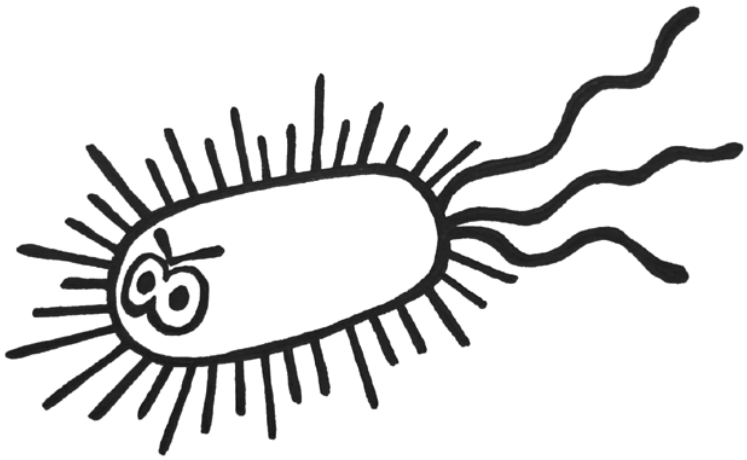
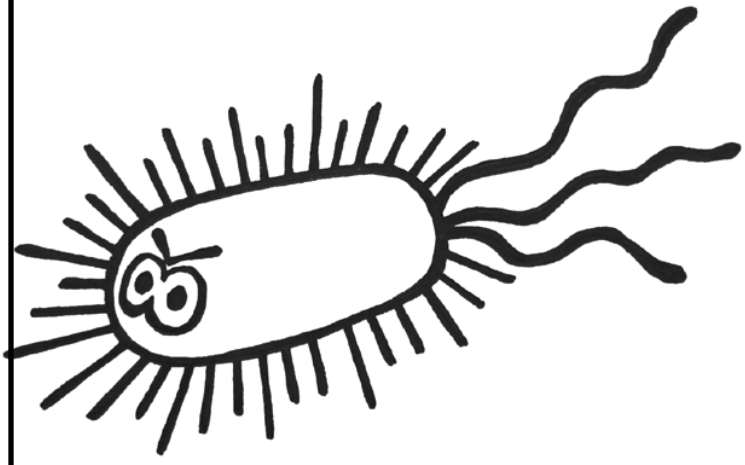


Food Poisoning Bacteria



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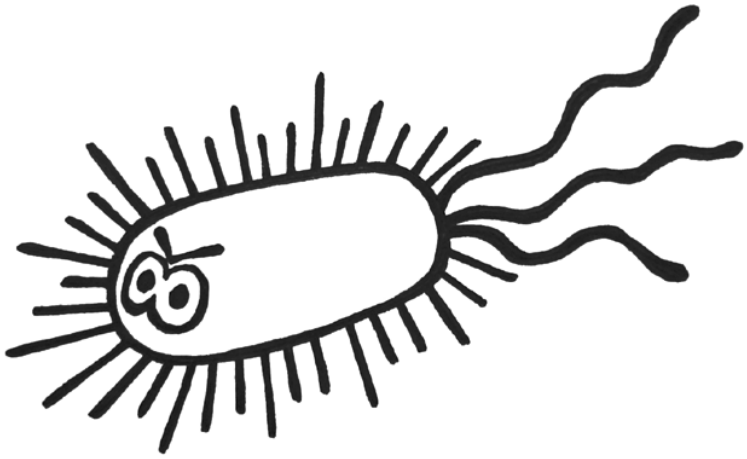

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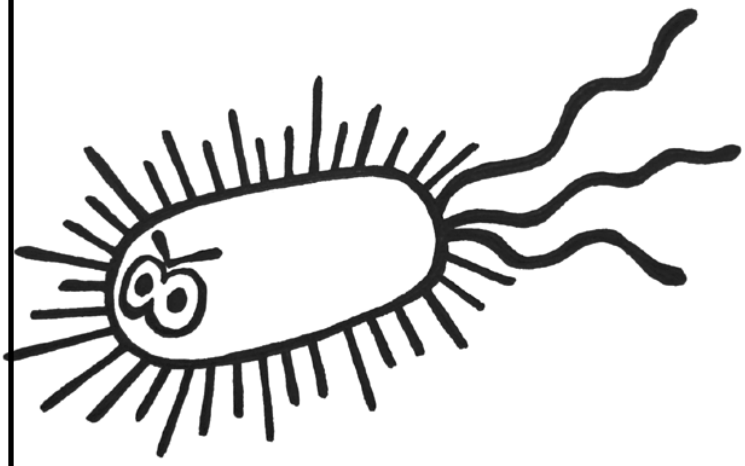

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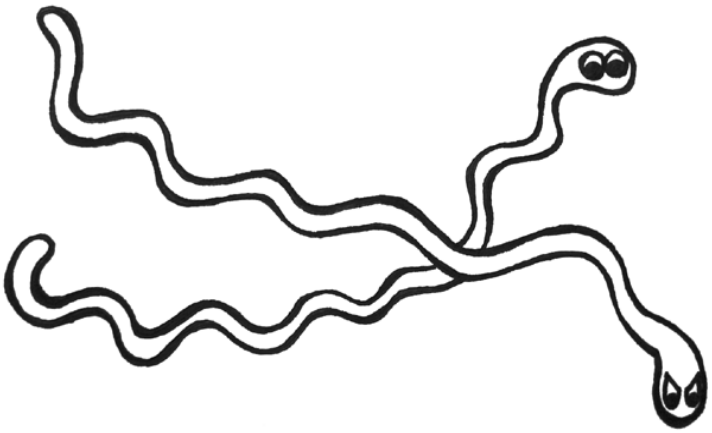
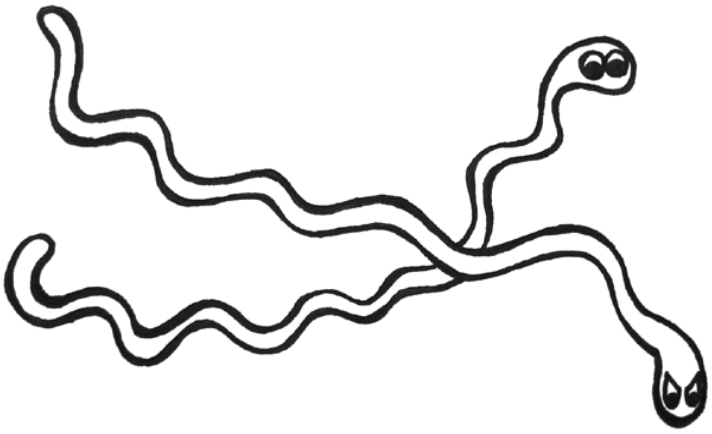
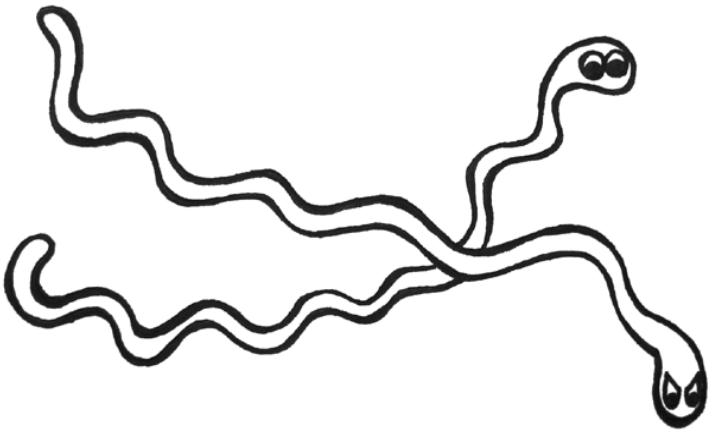


Kidney and Liver Disease



Kidney and Liver Disease



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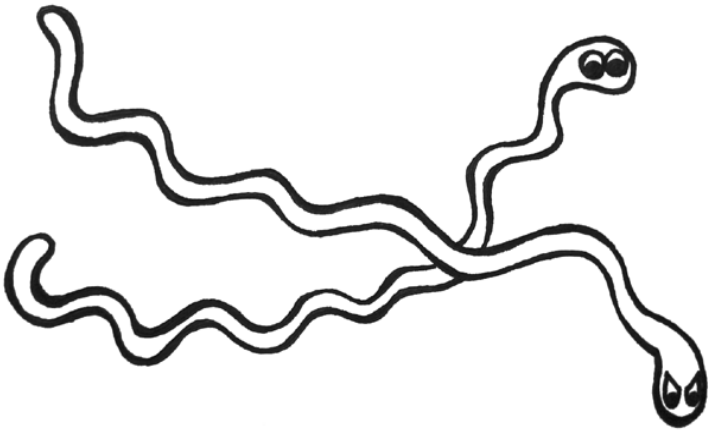
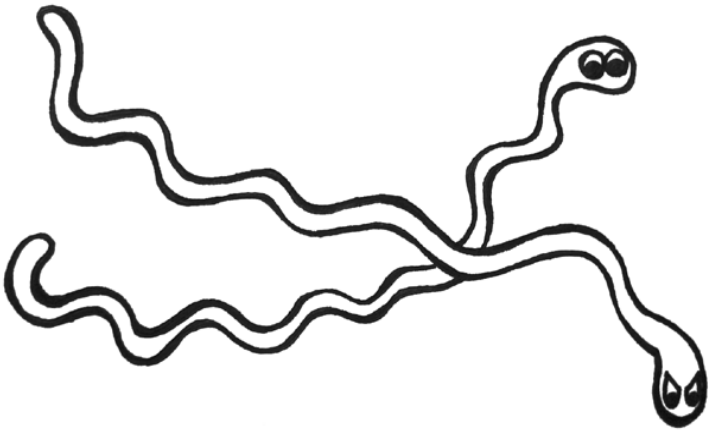
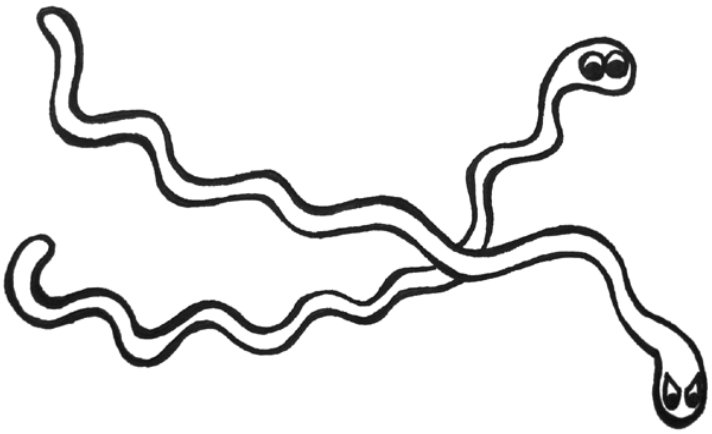


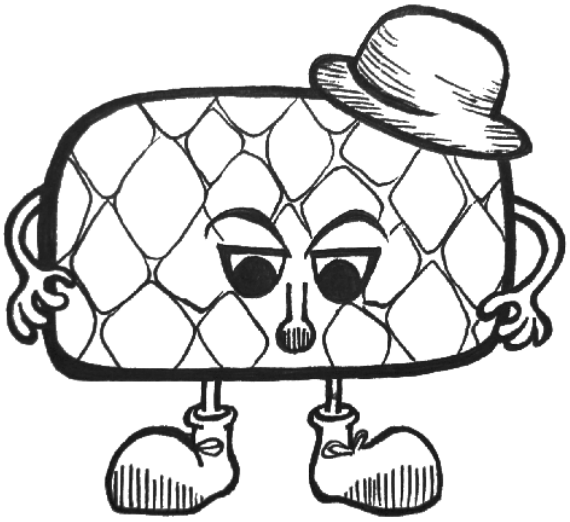
Kidney and Liver Disease



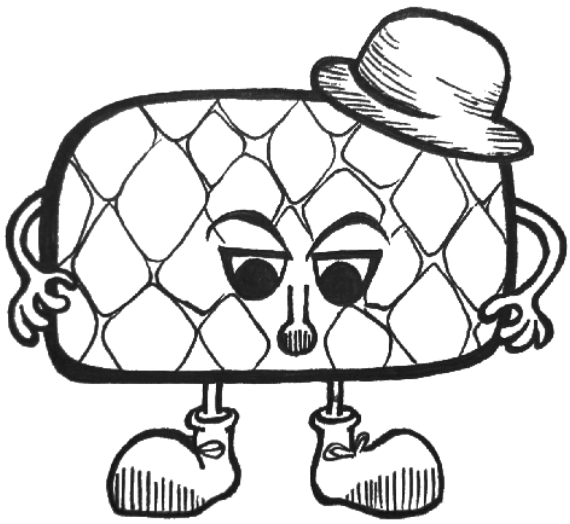
Kidney and Liver Disease



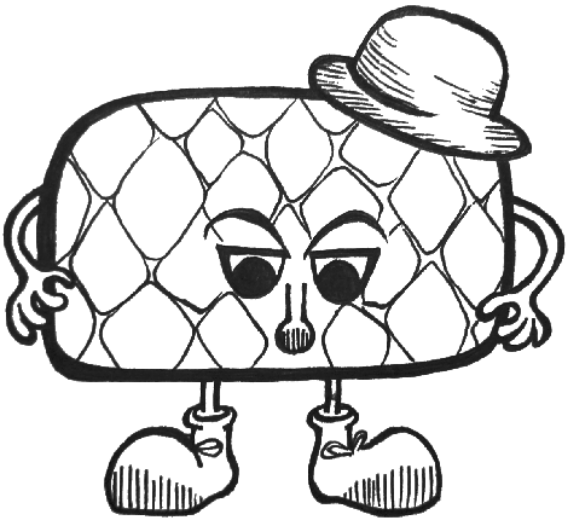
Kidney and Liver Disease



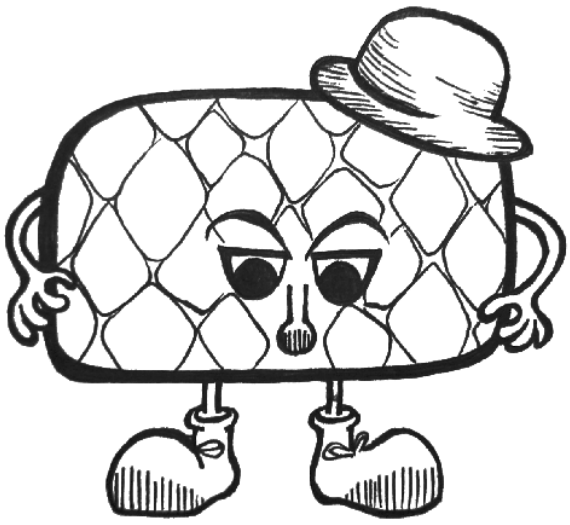
Smallpox Virus



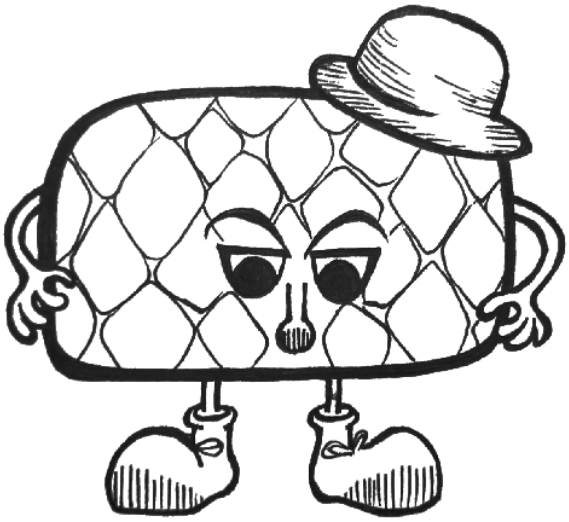
Smallpox Virus



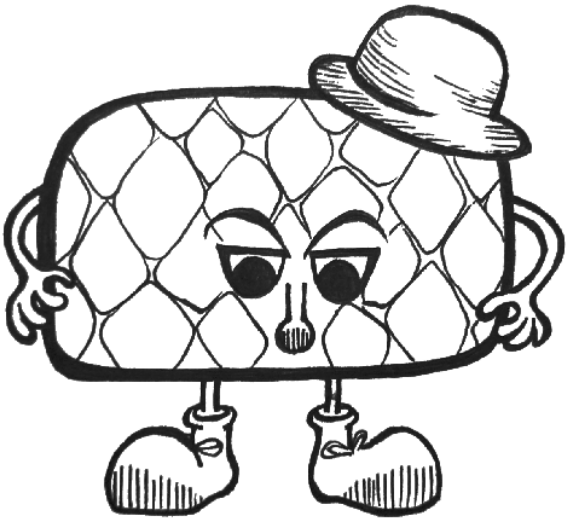
Smallpox Virus



Smallpox Virus



Smallpox Virus

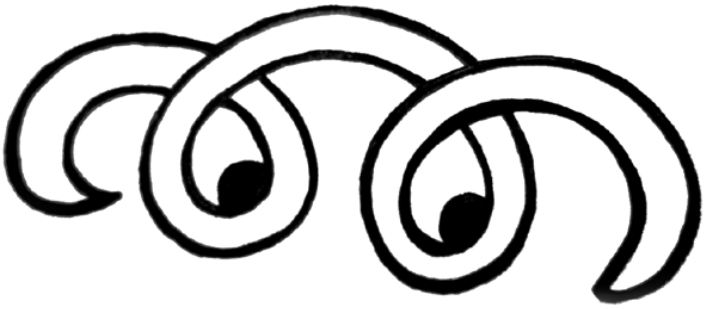


Smallpox Virus

Spirilla Bacteria

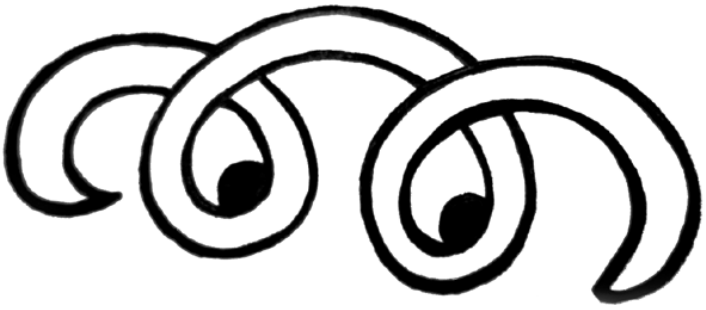
Spirilla Bacteria

Spirilla Bacteria

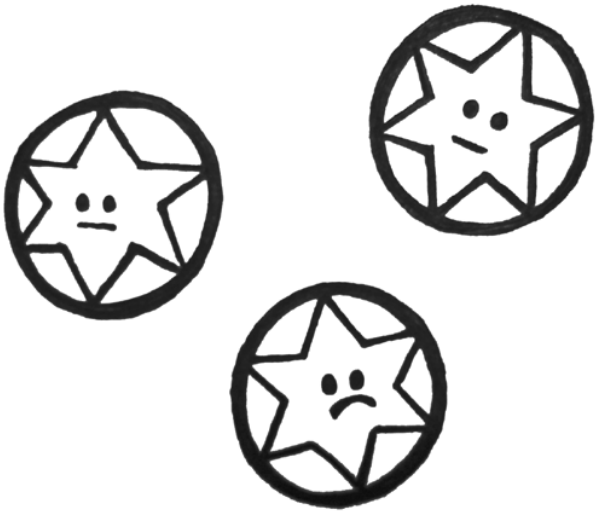


Spirilla Bacteria

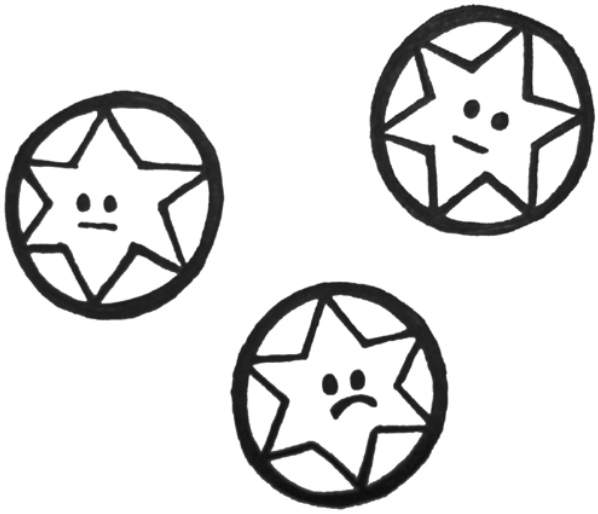
Spirilla Bacteria



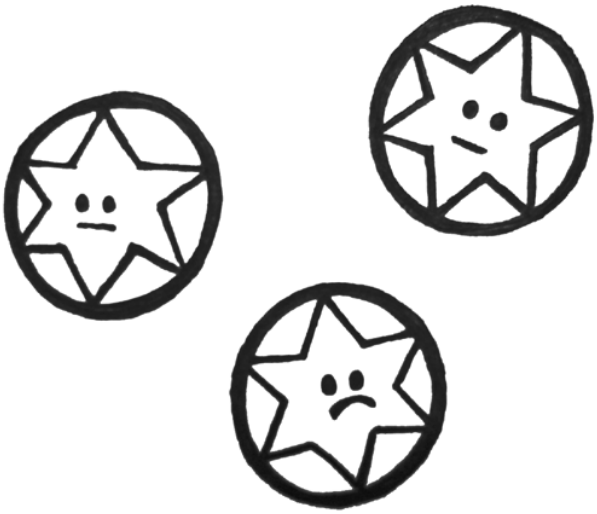
Spirilla Bacteria



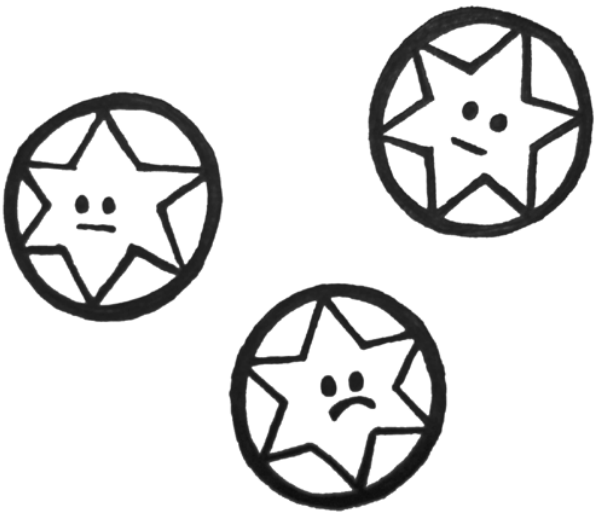
Stomach Flu Virus



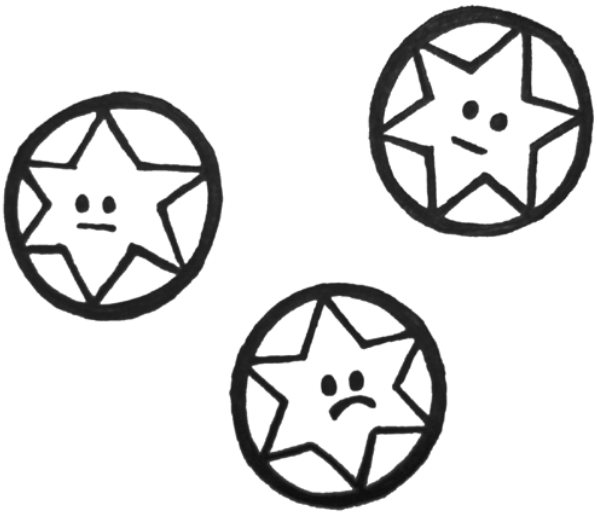
Stomach Flu Virus



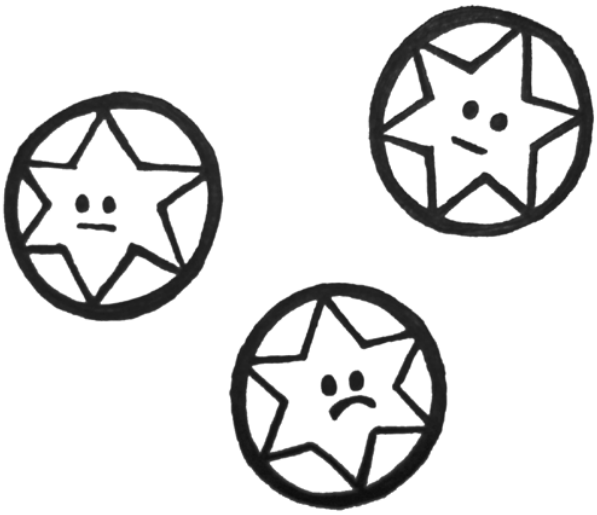
Stomach Flu Virus



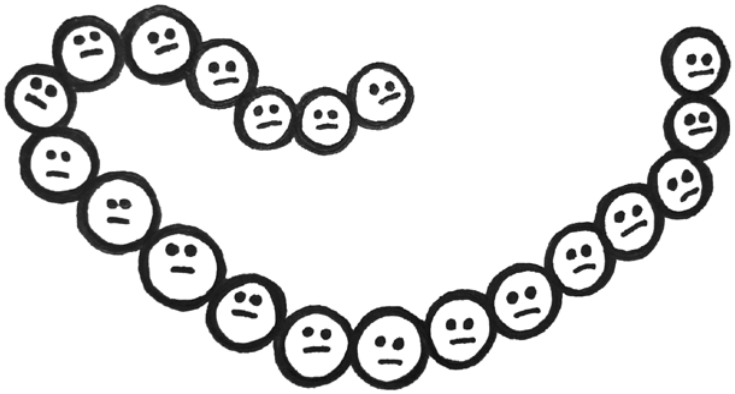
Stomach Flu Virus



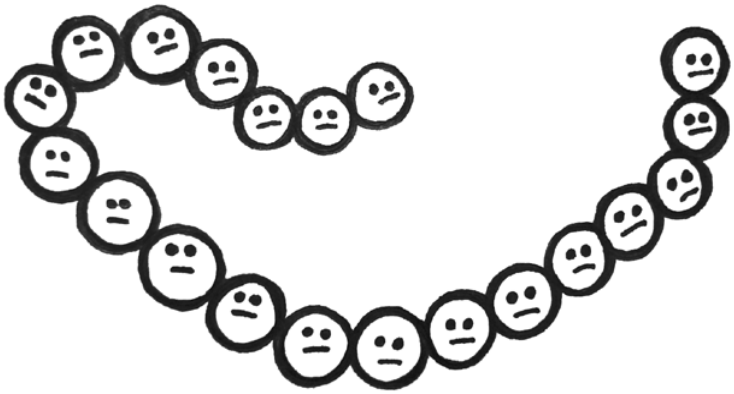
Stomach Flu Virus



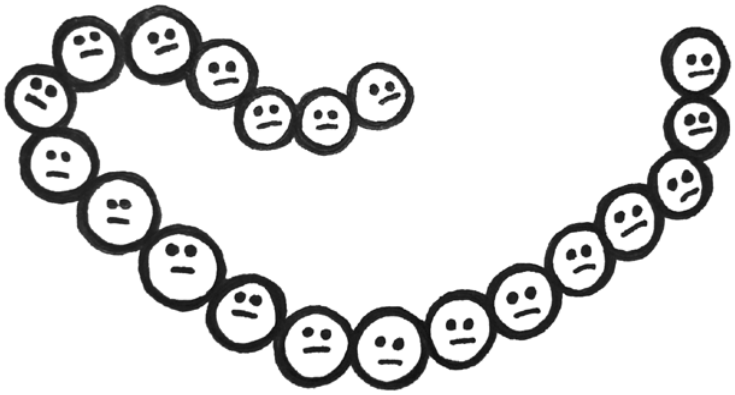
Stomach Flu Virus



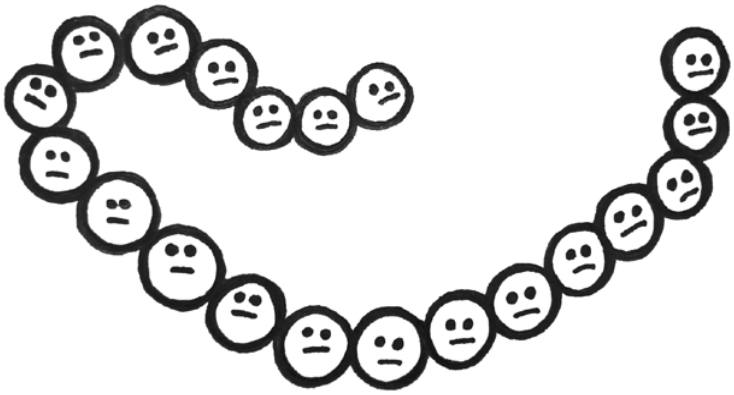
Strep Throat Bacteria



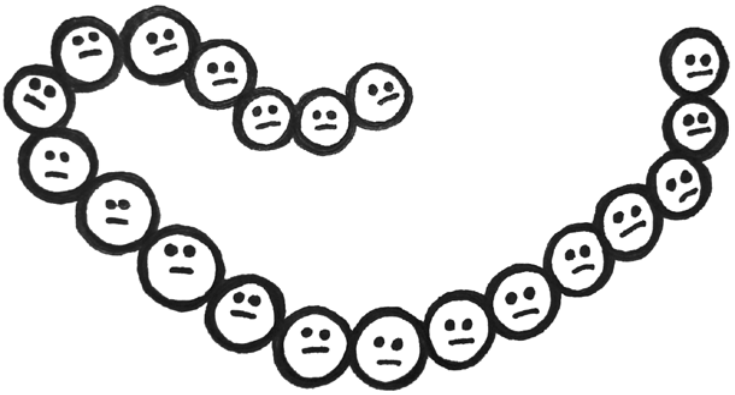
Strep Throat Bacteria



Strep Throat Bacteria



Strep Throat Bacteria



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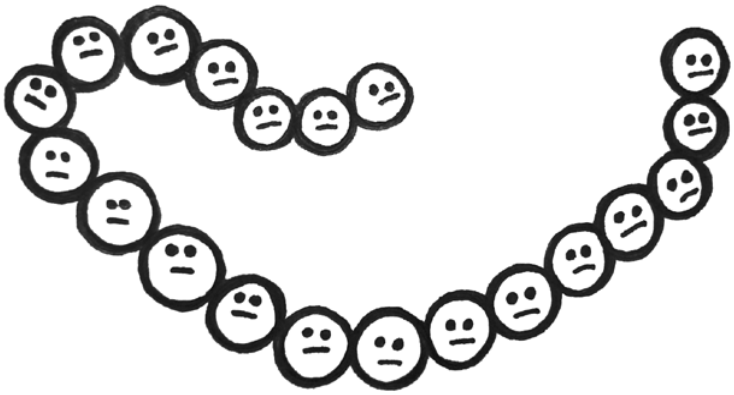
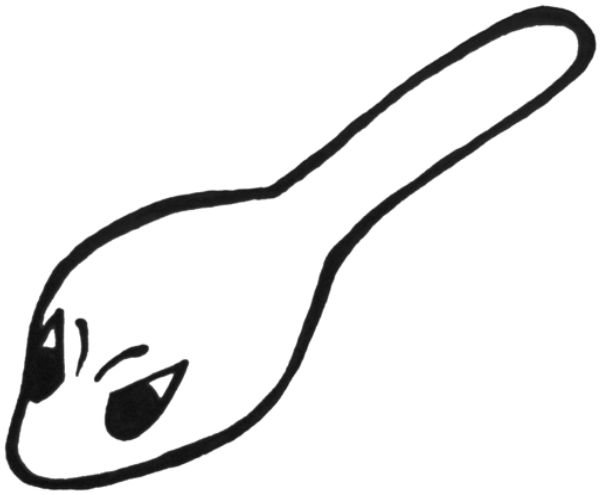
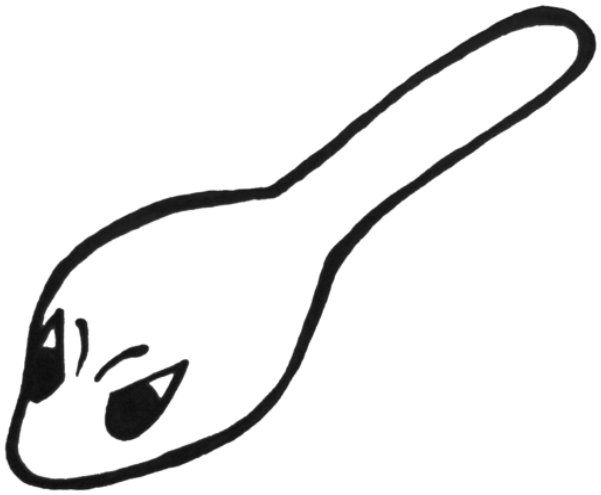


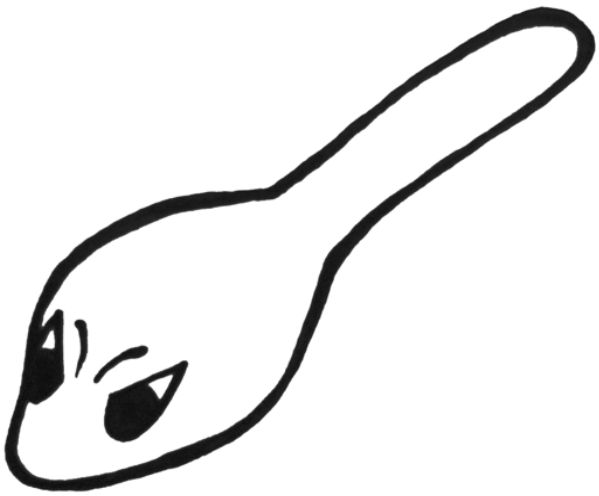
Strep Throat Bacteria



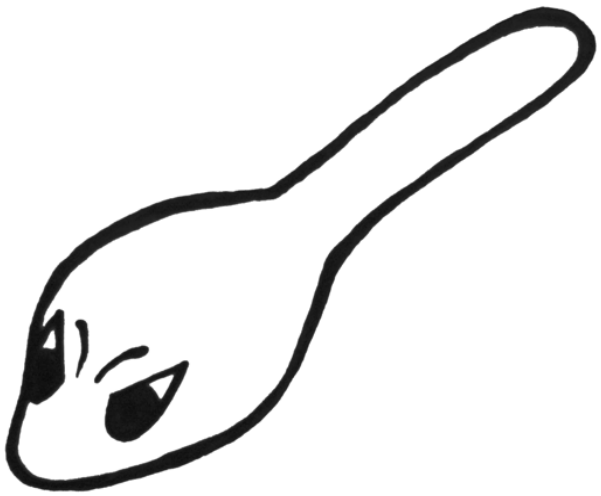
Tetanus Bacteria



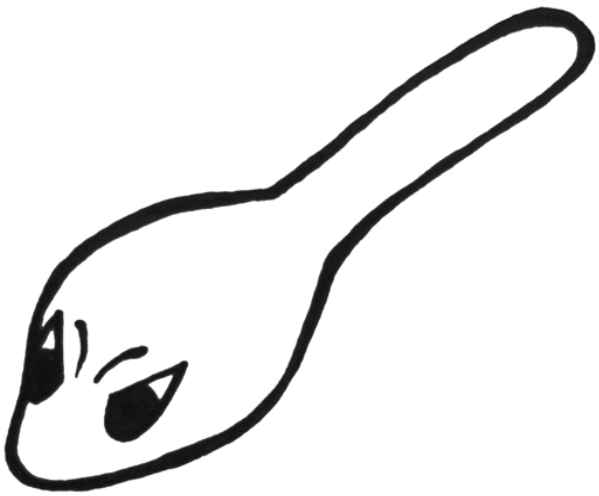
Tetanus Bacteria



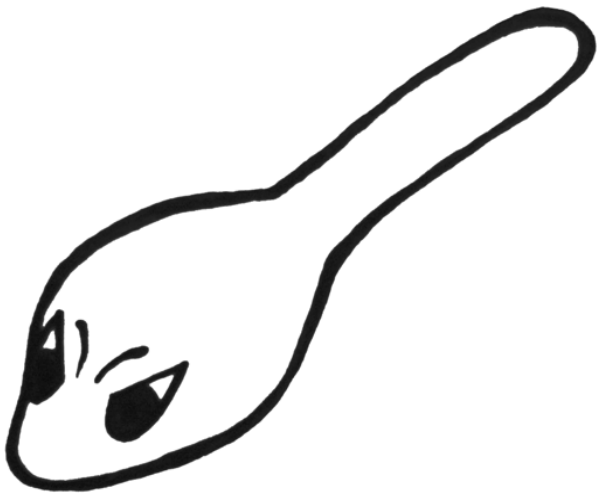
Tetanus Bacteria



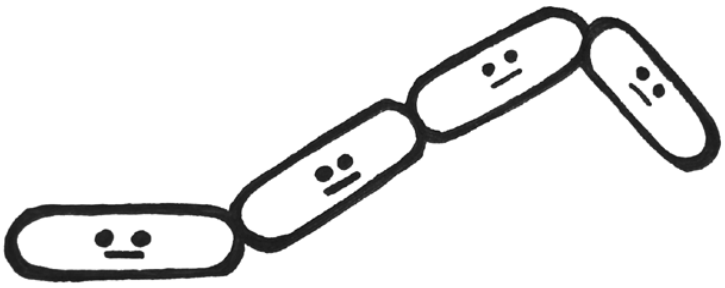
Tetanus Bacteria



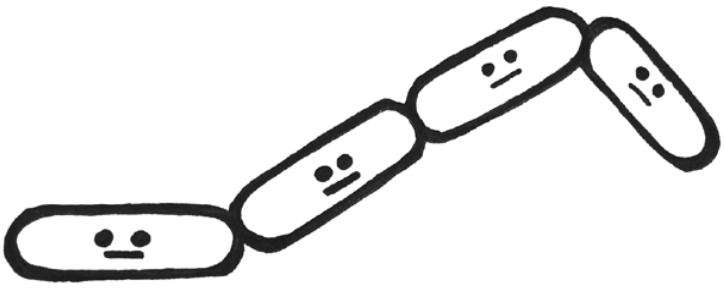
Tetanus Bacteria



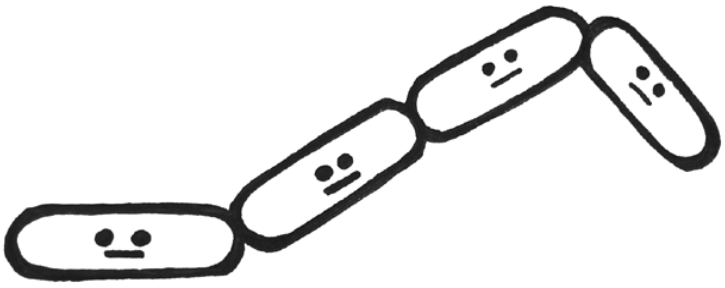
Tetanus Bacteria



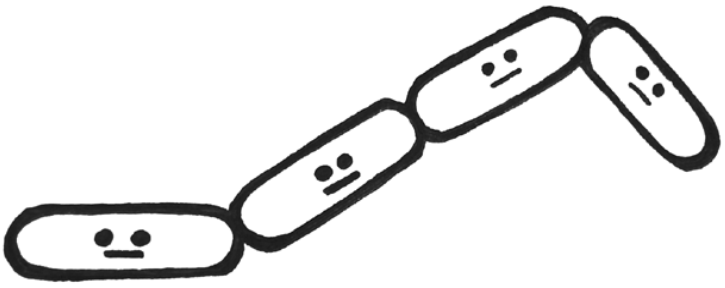
Tuberculosis Bacteria



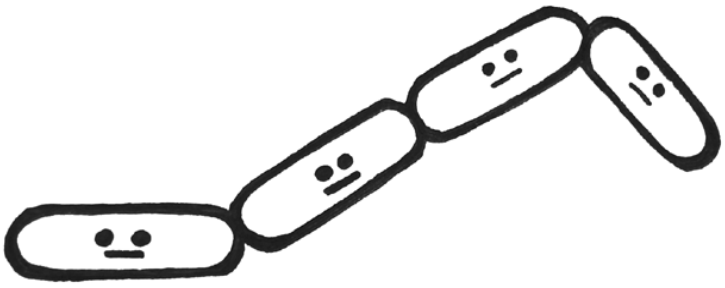
Tuberculosis Bacteria



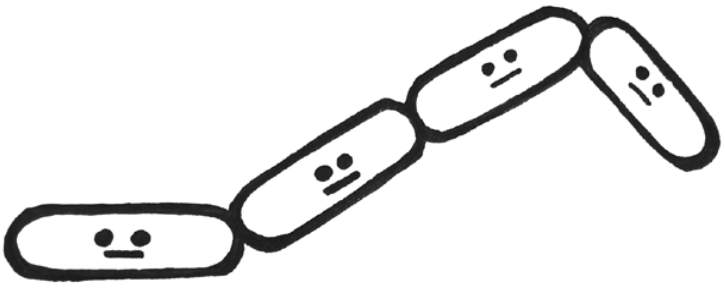
Tuberculosis Bacteria



Tuberculosis Bacteria



Tuberculosis Bacteria



Tuberculosis Bacteria

Wash, wash, wash your hands,
Wash the germs away.

Scrubbing my hands
with soap and water,
Germs go down the drain!

Bubbles, bubbles,
a million bubbles,
Carry the germs away,

I won't let germs get me sick,
I hope you do the same.

Sung to the tune of "Row, Row, Row Your Boat"

Name:_____ Date: _____

Wash the Germs Away!

Worksheet A

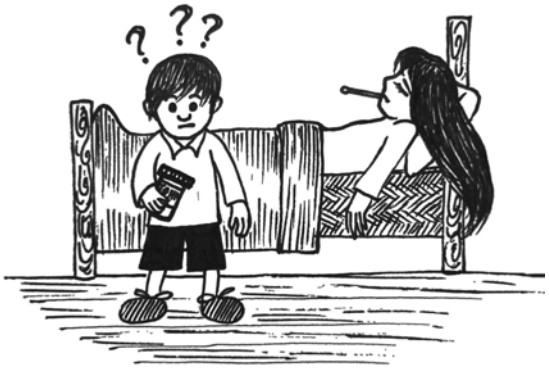
1. Wash hands with soap bubbles while singing a song or counting to _____ .

A. 3
B. 20
C. 100

2. The best prevention against getting sick is _____.

A. Washing your hands
B. Doing your homework
C. Watching more television

3. John is sick and received an antibiotic prescription from his doctor. What should he do?



A. Take the antibiotics until he feels better and then take less or stop taking them.
B. Take extra antibiotics so he will get better faster.
C. Take the antibiotics until he finishes what his doctor prescribed.

4. John's sister Patti is also sick. Should John share his antibiotics with his sister? (Circle one)

Yes No

Why? _____

_____

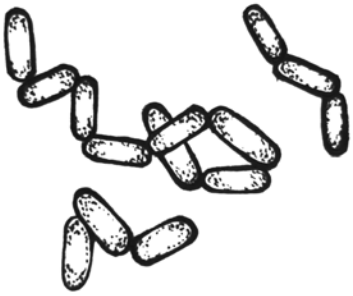
_____

Name: _____ Date: _____

Wash the Germs Away!

Worksheet B

WORD BANK			
ANTIBIOTICS	BACTERIA	EYES	GERMS
HANDS	PRESCRIPTION	VIRUS	WASH



1. __ __ __ __ __ are everywhere! Because germs can be found on your __ __ __ __ s it is important to __ __ __ __ them often.

2. Two types of germs that can make you sick are called a b __ __ __ __ __ __ __ and a V __ __ __ __. Germs come in many different shapes, and they are too small to see with your __ y __ __.

3. Name a few times when you should always wash your hands.

After _____, _____, &

_____.

Before _____ & _____.

4. If you are sick, your doctor may give you a p r e __ __ __ __ __ __ __ __ __ for __ __ __ __ b i o __ __ __ __ .

Never share your own antibiotics with anybody else and always finish prescriptions as directed by your doctor and under adult supervision.

Nombre:_____ Fecha:_____

¡Lávase las Manos Para Quitarse los Microbios!

Hoja de Trabajo A

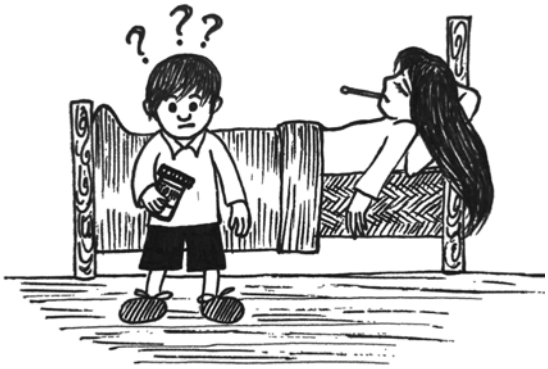
1. Cuando te lavas las manos, tallatelas con jabón en mientras que cantes una canción o cuentes a _____.

D. 3
E. 20
F. 100

2. La mejor manera de asegurar que no te enfermes es_____.

A. Lavar las manos
B. Hacer la tarea
C. Ver televisión

3. Juan está enfermo y está tomando antibióticos dado por su doctor. ¿Qué debe hacer él?



A. Tomar el antibiótico hasta que se sienta mejor, y luego parar de tomarlas.
B. Tomar más antibiótico de que le recomendó su docotor para mejorarse más pronto.
C. Tomar antibiótico hasta que se acabe lo que le recomendó su doctor.

4. Patti, la hermana de Juan, también está enferma. Es buena idea que Juan comparte sus antibióticos con su hermana?

Sì No

¿Por que?

_____

_____

Nombre:_____ **Fecha:**_____

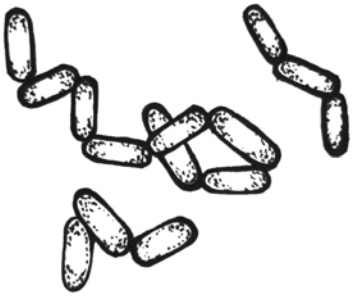
¡Lávase las Manos Para Quitarse los Microbios!

Hoja de Trabajo B

ALCANCILLA DE PALABRAS			
ANTIBIÓTICOS	BACTERIA	OJOS	LAVAR
MICROBIOS	PRESCRIPTIÓN	MANOS	VIRUS

1. _ _ _ _ _ _ _ _ _ están por todos lados! Es importante _ _ _ _ _te las _ _ _ _ _ porque allì se encuentran los microbios.

2. Dos clases de microbios que te pueden hacer muy enfermo son la b_ _ _ _ _ _ _ y el v_ _ _ _. Microbios vienen en muchas formas y son muy pequeñas para ver con tus _j_ _.



3. Nombra algunas veces cuando debes de lavarte las manos.

Después de _____, _____, y _____.

Antes de _____ y _____.

4. Si estas enfermo(a), tu doctor puede darte una pre_ _ _ _ _ _ _ _ para _ _ _ _ bio_ _ _ _ _.

Nunca compratas tus antibióticos con ninguna otra persona y siempre acábese la medicina como recomonedada por su doctor.

Date_____

Dear Parent/Guardian,

Your child recently participated in a lesson entitled *Wash the Germs Away,* taught by volunteer instructors from _____. The lesson was created as part of the California Medical Association Foundation Alliance Working for Antibiotic Resistance Education (AWARE) effort to address the growing problem of antibiotic medication overuse, misuse, and bacterial resistance.

We hope that you will reinforce and help your child to practice healthy behaviors at home. Some suggested activities are listed below:

- Ask your child what germs look like, how big they are, and where they are found. *Germs such as viruses or bacteria are too small to be seen with the eyes and are found everywhere, especially on our hands. Some germs are "good" and others are "bad" and may cause sickness.*
- Model and help your child practice proper handwashing: scrub 20 seconds with soap and warm running water while paying attention to around the fingernails. Ask your child to sing the handwashing song for you. *It is important to wash hands after using the toilet, playing with animals, being around sick people, and before preparing or eating food.*
- Ask your child to describe the right way to take antibiotics or other medication. *Antibiotics should only be taken as directed by a doctor's prescription. Never share or take leftover antibiotics. Antibiotics do not work against the common cold or flu virus. Make sure your child understands the importance of always taking any medication under proper adult supervision.*

Please feel free to contact us with comments or questions at _____. We appreciate your help in keeping antibiotics effective and instilling these life-long preventive health practices in your child.

Sincerely,

Organization Name

La Fecha _____

Estimados Padres/ Guardianes,

Su hijo(a) ha participado recientemente en la leccion *¡Lávase las manos para quitarse los microbios!* Los estudiantes parte del grupo _____ formado por estudiantes de la Universidad de _____ dieron la lección. La lección fue creada como parte del proyecto por medio de California Medical Association Foundation Alliance Working for Antibiotic Resistance Education (AWARE) para enseñarles a los niños como usar los antibióticos.

Esperamos que usted le ayudará a su hijo(a) practicar costumbres saludables en sus casas. Las siguientes son algunas actividades:

- Pregùntele a su hijo(a) como se miran los microbios, que tan grandes son, y donde se encuentran. *Microbios como un virus o bacteria son mucho muy pequeños para verse y se encuentran por todos lados, especialmente en nuestras manos.*
- Ayùdele a su hijo(a) a practicar lavarse sus manos bien: tallese con jabon y agua poniendo atención especial a la area de las uñas por 20 segundos. *Es importante lavarse las manos despues de usar el baño, jugar con animales, estar en contacto con gente enferma, y antes de preparar comida y en mientras de estar comiendo.*
- Preguntele a su hijo(a) cómo y cuándo deben de tomar antibióticos. *Los antibióticos solamente se deben tomar con la recomendación de un doctor y no para la influenza o gripa porque no trabajan contra esas condiciones. Nunca deben de compartir los antibióticos ni tomar los antibióticos que han sobrado de otra persona. Siempre tomen los antibioticos segun las instrucciones del doctor.*

Por favor, comunìquese con nosotros al email con cualquier pregunta o comentario.

Sinceramente,

Nombre de Organacación

Supplementary Resources for Teachers, Parents, & Children

Internet
www.aware.md
www.glogerm.com
www.sope.net
www.microbe.org
www.cdc.gov/ncidod/op/handwashing.htm
http://www.nal.usda.gov/foodborne/fbindex/washhands.html

Books

Bernard, Bryn, Nye, Bill, & Zoehfeld, Kathleen. Bill Nye the Science Guy's Great Big Book of Tiny Germs. New York: Hyperion Books for Children, 2005.

Lee, Fran & O' Brien-Palmer, Michelle. Health Me: fun ways to develop good health and safety habits. Chicago: Chicago Review Press, Inc., 1999.

Mitchell, Melanie. Killing Germs. Lerner Publications, 2005. Ages 4-8.

Romanek, Trudee. Achoo: the most interesting book you'll ever read about germs. Kids Can Press, 2003. 40 pages, ages 9-12.

Berger, Melvin. Germs Make Me Sick! New York: Harper Collins Publishers, 1995.
Ages 5-9

Wakefield Ferrin, Wendy. Germs on Their Fingers. Germenes en tus Manos!
Knoxville, TN: Wakefield Connection. 64 pages, bilingual, all ages.

Ross, Tony. Wash Your Hands! Kane/Miller Book Publishers, 2000. Ages 4-8.

Vocabulary List

Vocabulary: *Germs*, antibiotics, *doctor,* handwashing, medicine, *soap, clean,* cough, cold, sneeze, sick, illness, symptoms, **over the counter medicine**, **prescription**, **hand sanitizer**, pharmacy, bacteria, viruses, **immune system, symptoms, infection, resistance**.
(*Italicized* words 3rd graders may know already, **bold** words are more challenging)

Germ: A tiny plant or animal, so small you cannot see them with your eyes alone. Many germs cause illnesses.

Bacteria: Types of germs, some may cause disease

Viruses: Very small disease-causing particles.

Prescription: An order on paper for an antibiotic (usually) that is written by a doctor

Antibiotic: A type of medicine that is used to kill or slow the growth of germs that cause disease.

Antibiotic Resistance: The ability of a germ to overcome or fight against an antibiotic.

Immune: To be protected from a disease.

Sanitizer: A cleaner that causes something to be free of germs.

Symptom: An indication or sign of sickness.

Infection: A sickness that is caused by germs entering the body.

Disease: A sickness possibly caused by a virus or bacteria.

Immune system: The system of the human body that produces white blood cells and antibodies to resist infection by disease.

Contributors' Biographies & Acknowledgements

Wash the Germs Away was made possible by the generous support of the Donald A. Strauss Public Service Scholarship Foundation. This project contributes to the efforts of the California Medical Association (CMA) Foundation Alliance Working for Antibiotic Resistance Education (AWARE) Campaign.

Creator

Cindy Lin, Class of 2002, majored in Human Biology at Stanford University with a focus on Health Care Policy. She is currently at Harvard Medical School and plans to pursue a career in pediatrics, public health, and health care policy. Even to this day, she still enjoys singing the handwashing song! She can be reached with questions about the project at cinders358@yahoo.com.

Artists

***Emiley Chang*,** Class of 2003, majored in Human Biology at Stanford University. She is currently at Stanford School of Medicine, with a concentration in Community Health and Public Service. Her interest in art can be traced to her childhood, when she was inspired to draw giant snakes and square-headed unicorns on her sister's closet door. Although she never formally enrolled in art classes after high school, she continues to sketch strange creatures in her free time.

Nicholas Bly Pope, Class of 2003, majored in Studio Art and minored in Human Biology and Psychology. He is currently attending the University of Minnesota graduate school in Studio Art. His first participation in an art exhibition was at Hot Art Injection in Minneapolis through the Walker Art Center in June of 1999. He and his twin brother, Ethan Rowan Pope, received the 1999 Blake School Award for Outstanding Artistic Achievement. He hopes to make art for the rest of his life.


Pharmacy
Prescription Pick-up
Advil
Excedrin
Motrin


Prescription Pick-up