Algoma
PUBLIC HEALTH
Santé publique Algoma

HANDWASHING

TOOLKIT

GRADES 7 and 8

Algoma Public Health

School Health Program

Target Group: Grades 7 and 8

Ontario Provincial Curriculum Strand: Healthy Living

Strand Component: Growth and Development

Specific Expectations:

1. Describe the increasing importance of personal hygiene following puberty.

Background Information:

- Introduction – Handwashing Teaching Toolkit

Key Teaching:

- Learning Objectives
- Activity #1 Glitterbug Glo Germ
- Activity #2 The Spread of Germs Game
- Activity #3 Handwashing Crossword Puzzle
- Activity #4 Secret Code of Handwashing
- Activity #5 Coughing and Sneezing in Your Sleeve

Handwashing Teaching Toolkit

Objective:

To teach elementary school youth the importance of handwashing, including how and when to wash their hands.

Background information:

Bacteria are everywhere. There are more bacteria on one's body than there are people in Canada. There are bacteria that live on the skin and are usually not harmful. But hands can gather all kinds of bacteria with each job they do. We cannot see individual bacteria without using a microscope.

Why teach handwashing?

Prevention is the best intervention. Addressing the spread of germs in schools is essential to the health of our youth, our schools, and our community. Proper handwashing is inexpensive and the most effective way to prevent the spread of germs. It is important for students of all ages to know when and how to properly wash their hands. While commitment to handwashing means commitment of time and supplies, the cost of NOT washing our hands is far greater than the cost of washing our hands. Despite its' simplicity, handwashing is no laughing matter. According to the CDC, handwashing education has reduced absenteeism due to gastrointestinal illness in schoolchildren by 29-57% (CDC, 2023). It's not surprising when you think about it, because school is all about sharing: desks, books, pens, food, bathrooms, door handles, water fountains, computer mice, and keyboards. Touching them results in germs. When looking into the cause of illness in young children around the world, the CDC has found that "handwashing with soap could protect 1 out of every 3 young children who get sick with diarrhea and almost 1 out of 5 young children with respiratory infections like pneumonia" (CDC, 2023). Clean hands are all about good health for students, volunteers, teachers, administrators, and the entire school community.

What are some ways to teach children good handwashing technique?

You cannot avoid collecting germs, but you can reduce the chance of infecting others by knowing when hands should be washed. It is important to encourage and help children to wash their hands before eating, after playing outdoors or playing with pets, after using the washroom, after coughing or sneezing, after blowing their noses and whenever their hands look, feel, or smell unclean. Even though hands may appear to be clean, they may carry germs capable of causing disease.

Do not assume children know how to wash their hands properly. Supervision, especially at home and in school settings, is an essential element in forming good handwashing habits in children. Children learn by example. Let them learn good handwashing technique from observing you.

How to wash hands:

1. Wet hands with warm water
2. Use liquid soap
3. Lather for at least 20 seconds
4. Rub palms together, scrub the back of hands, wrists, and thumbs, and between the fingers and under the fingernails (keep fingernails short)
5. Rinse well with water to remove all lather
6. Dry hands well using a paper towel
7. Turn off tap with paper towel, not with your clean hands

The mechanical action of handwashing – rubbing your hands together with soap and water – breaks down the tiny bits of grease, fat and dirt on your hands that bad germs cling to. Soap does not kill the bad germs. Instead, it's the combination of soap, rubbing, rinsing, and drying that help these germs slide off hands.

Other ways to get hands clean:

When handwashing facilities and equipment are not available, alcohol-based hand rinses, gel sanitizer, or alcohol hand wipes containing at least 60% alcohol can be used as an alternative if hands are not visibly soiled. When using gels rub hands until the gel is dry. The gel does not need water to work: the alcohol in it kills the germs on your hands. Young children should be supervised when using alcohol-based products.

Things to avoid:

1. Avoid using single wash cloths and towels to wash a group of peoples' hands
2. Avoid using a standing basin of water to rinse hands

Cuts and dryness:

Observe hands for cuts and signs of dryness. Cuts should be covered, and hand lotion should be used to prevent dryness. Germs enter the body through cuts and dry skin.

Contents of Handwashing Toolkit:

1. Lesson plan
2. Activity sheets
3. Glitterbug Glo Germ lotion and UV light

This toolkit has been adapted from the "Down with Germs – Wash Germs Down the Drain" educational kit developed by Wellington – Dufferin - Guelph Public Health Unit.

GRADE 7 AND 8 LESSON PLAN

Learning objectives:

- Understand the difference between diverse types of microorganisms such as viruses and bacteria.
- Know the separate ways, or routes of transmission, that illness and disease can be spread.
- Identify and discuss common childhood illnesses and diseases and methods of prevention.
- Describe components of the body's system of defense against infections.

General Information:

- Germs are so small that you cannot see them, and they can be found almost everywhere. They are also called microorganisms, which mean that they are too small to be seen without the help of a microscope.
- There are 229,000 germs per square inch on frequently used faucet handles, 21,000 germs per square inch on work desks (400 times more than the average toilet seat) and 1,500 on each square cm of hands.
- There are many types of microorganisms, including bacteria and viruses.
- Some bacteria and viruses cause illnesses and diseases. Some are naturally occurring, do not make people sick and may be beneficial to a person's health. Examples of beneficial bacteria are ones used to make yoghurt and cheese. People also have beneficial bacteria in their gastrointestinal tracts (intestines – guts) that help them digest food.
- Microorganisms that cause illnesses and diseases are referred to as "pathogenic".
- Some illnesses and diseases that are caused by bacteria and viruses can be harmful and have serious complications.
- Some examples of illnesses and diseases caused by bacteria and viruses are upper and lower respiratory tract infections, influenza, hepatitis A and B, HIV/AIDS, and Salmonellosis. (See Handout: What Germs Are on Our Hands?)
- Microorganisms can be spread 4 ways, (routes of transmission). These are:

1. Fecal oral or (contaminated with feces) hand-to-mouth contact (i.e., Salmonella, Hepatitis A). Hands are the most exposed part of the body to germs.
2. Directly or through close contact by sharing personal items (i.e., lice).
3. Blood contact (i.e., HIV/AIDS, Hepatitis B).
4. Respiratory or airborne contact (i.e., influenza and colds).

- Washing with soap and water removes microorganisms from your hands and washes them down the drain. Handwashing reduces the number of microorganisms that are on your hands. Reducing the number of microorganisms on your hands makes it less likely for them to cause an infection or be spread to others.
- Washing your hands properly and often can prevent the spread of many illnesses and diseases.

How to Wash Your Hands:

1. Wet hands with warm water.
2. Use soap. It is best to use liquid soap.
3. Lather for at least 20 seconds.
4. Remember to scrub the back of hands, the thumbs, between the fingers and under the fingernails.
5. Rinse with water to remove all lather.
6. Dry hands well using a paper towel.
7. Turn off tap with paper towel – not with your bare hands.

Lathering with soap helps to lift dirt and germs off hands so they can be rinsed down the drain. However, if there is no soap, going through the action of handwashing will still help to remove some germs from your hands.

When to Wash Your Hands:

- Before eating, drinking, or preparing food.
- After using washroom facilities.
- After playing outside or with animals.
- After visiting someone who is sick
- After touching money, raw meat, poultry, or fish.
- After coughing, sneezing, or blowing your nose.
- After handling garbage.
- If hands look or feel dirty.

Activities:

Select one or several activities provided to reinforce proper handwashing.

ACTIVITY #1: GLITTERBUG GLO GERM

Description:

Demonstrate to students that germs can be on their hands although they cannot be seen. The Glitterbug Glo Germ lotion is rubbed on hands and disappears as it is rubbed in. The lotion simulates germs that hide (seen under Glitterbug Glo Germ UV light) after hands are washed. This helps students to understand that handwashing can remove germs from hands.

Materials needed:

- Glitterbug Glo Germ UV Light (available from Algoma Public Health)
- Glitterbug Glo Germ lotion (available from Algoma Public Health)
- A sink with hot and cold running water
- Liquid soap
- Paper towels
- Hand sanitizer (optional)

Method:

1. Place a small amount of Glitterbug Glo Germ lotion into each student's hand. A pea-sized drop should be enough for small hands.
2. Have students rub the lotion all over their hands.
3. Explain that like the lotion, germs are on their hands although they cannot see them.
4. Have children place hands under the UV light (you may have to dim the lights in the room). The areas where there is Glitterbug Glo Germ lotion will glow orange under the light.
5. Explain to students that the orange glow reveals where germs are on their hands.
6. Have children wash hands using the proper technique and then look at their hands under the UV light again. There should be a significant reduction in the areas that glow orange.
7. Have students discuss areas that are commonly missed during handwashing, where the Glitterbug Glo Germ lotion continues to glow under the light. These are usually the thumbs, between the fingers and underneath the fingernails. Encourage students to pay extra attention to these areas when handwashing.
8. Explain that like germs, the lotion can be washed off using proper handwashing.

Variations with Glitterbug Glo Germ:

1. Divide students into three groups. Put Glitterbug Glo Germ lotion on the hands of all students. Have one group wash with water only, the second group wash with soap and water, and the third group wash with hand sanitizer. After examining hands under the Glitterbug Glo Germ UV light, discuss how much cleaner hands washed with soap and water become.
2. Divide students into three groups. Put Glitterbug Glo Germ lotion onto the hands of all students. Have the first group wash hands and lather for 5 seconds. Have the second group lather for 10 seconds and the third group lather for 20 seconds. Compare the cleanliness of the hands of each group using the Glitterbug Glo Germ UV light. Discuss how lathering for a longer period will make hands cleaner.

ACTIVITY #1: GLITTERBUG GLO GERM con't

Variations with Glitterbug Glo Germ:

3. Put Glitterbug Glo Germ lotion onto the hands of one student and ask that student to shake hands with five classmates. Examine the hands of the students involved in the handshakes under the UV light and discuss how the Glitterbug Glo Germ lotion has been transferred from the hands of the original student to the other hands. This is a representation of how germs can be transmitted from one person to another through direct contact.

Refer to Materials Safety Data Sheet Glitterbug Glo Germ
https://www.glogerm.com/sds.html

ACTIVITY #2: THE SPREAD OF GERMS GAME

Description:

- Students learn that germs can be found on the hands.
- Students 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 Needed:

- 14 different germ picture sets (six cards each) – Appendix C (refer to "Spread of Germs Game" – fourteen germ pages)
- Paper bag
- Rubber bands

Method:

1. Explain to the students that they are going to play a game called The Spread of Germs Game. Place a sticker on the back of one germ of each set.
2. Pass out a set of five germ picture cards to 14 students. Each of the 14 students will represent a germ. Tell students that while there are both good and bad germs, the pictures on the cards represent bad germs.
3. Place a set of 14 germ picture cards in a paper bag and set aside.
4. Tell students that they should keep the one germ card with a sticker on the back of it on their desk.
5. Explain to the class that they are going to walk around the room and trade their four remaining cards (cards without a sticker on them) with 4 other students in the class with germ cards. First, the student will shake hands with another student and then exchange or give away one card. Tell students that they do not have to trade for a color different than their own card or a different germ; what is important, is that they trade cards with four other students.
6. Tell students that when they are finished trading, they should return to their desks and sit quietly.
7. Once the students are in their seats again, tell students that you have all the diverse types of germs in the paper bag. You are going to pull two germs out of 14 germs that were placed in the paper bag. The two germs will represent the germs of the two people in the class that did not wash their hands.
8. 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 match the germ cards students have that have the matching sticker on the back of them. Ask any other students who got the germs through 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.
9. 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.

ACTIVITY #3: HANDWASHING CROSSWORD PUZZLE

Description:

Students learn about words extensively used with handwashing.

Materials needed:

“Handwashing Crossword Puzzle” work sheet (Appendix C)

ACTIVITY #4: SECRET CODE HANDWASHING GAME

Description:

Students learn about words extensively used with handwashing.

Materials needed:

“Secret Code Handwashing Game” work sheet (Appendix C)

ACTIVITY #5: COUGHING AND SNEEZING IN YOUR SLEEVE

Description:

Millions of disease-causing germs are released into the air every time we cough or sneeze. Children have learned that coughing and sneezing into a tissue can help keep germs from getting on hands and prevents the spread of germs. Coughing and sneezing into a tissue may contaminate the hands. If this occurs, it is strongly recommended that the hands be washed immediately to prevent the spread of germs.

There is another technique in town! Did you know that the best place to sneeze and cough is into fabric, such as one's sleeve, where the germs get trapped, dry out and die? This takes practice, so practice, practice, practice!

Materials:

Video: https://www.youtube.com/watch?v=CtnEwvUWDo0

Method:

1. Explain to the class that they will be demonstrating the proper technique for coughing and sneezing into their sleeve (short or long)
2. Explain to the class how this technique prevents the spread of germs
3. Demonstrate the proper technique for coughing and sneezing into fabric (sleeve or shoulder)
4. Ask 4-6 students to individually demonstrate the technique of coughing into fabric, to the rest of the class then
5. Ask the class to rate the students from 1 (poor) to 3 (successful) on technique each student demonstrated

APPENDIX A: CURRICULUM EXPECTATIONS

The Ministry of Education – Ontario Physical Health and Education Curriculum Links 2019 Grades 1-8

Human Development and Sexual Health

D2.5 Demonstrate an understanding of and apply proper hygienic procedures for protecting their own health and preventing the transmission of disease to others

(e.g., washing hands with soap, using a tissue, sleeve sneezing, brushing and flossing teeth, not sharing hats or hairbrushes) page 108 (Grade 1)

Personal Safety and Injury Prevention

D1.1 Demonstrate an understanding of practices that enhance personal safety in the home

(e.g., observing precautions for answering the phone and door, establishing home fire escape strategies, respecting electrical outlet covers, following precautions for preparing and storing foods, washing hands), outdoors *(e.g., using UV protection; observing safety rules when riding the bus, riding a bicycle, walking to school, approaching railway tracks and crossings; carrying medication for allergic reactions; being cautious when approaching animals)*, and when online *(e.g., not sharing personal information, checking with an adult if information found online is true)* [A1.5 Self, 1.6 Thinking] page 124 (Grade 2)

APPENDIX B: REFERENCES

Centers for Disease Control and Prevention. (2023, May 4). Show me the science – Why wash your hands? Centers for Disease Control and Prevention. https://cdc.gov/handwashing/why-handwashing.html#s3-three

Coughsafevideos. (2012, Mar 7). *Why Don't We Do It In Our Sleeves?* [Video]. https://www.youtube.com/watch?v=CtnEwvUWDo0

Glitterbug Glo Germ (N.A.). *Educational Worksheets.* Glitterbug Glo Germ. https://www.glogerm.com/worksheets.html

Saskatchewan Health Authority. (2020, Sep 4). *Germ Smart Kids: How-To Handwashing* [Video]. Youtube. https://www.youtube.com/watch?v=eNmte6Xe3R4

The Ontario Curriculum Grades 1-8: Health and Physical Science (2019). Toronto: Ontario Ministry of Education and Training. https://www.edu.gov.on.ca/eng/curriculum/elementary/2019-health-physical-education-grades-1to8.pdf

APPENDIX C: ACTIVITY PAGES

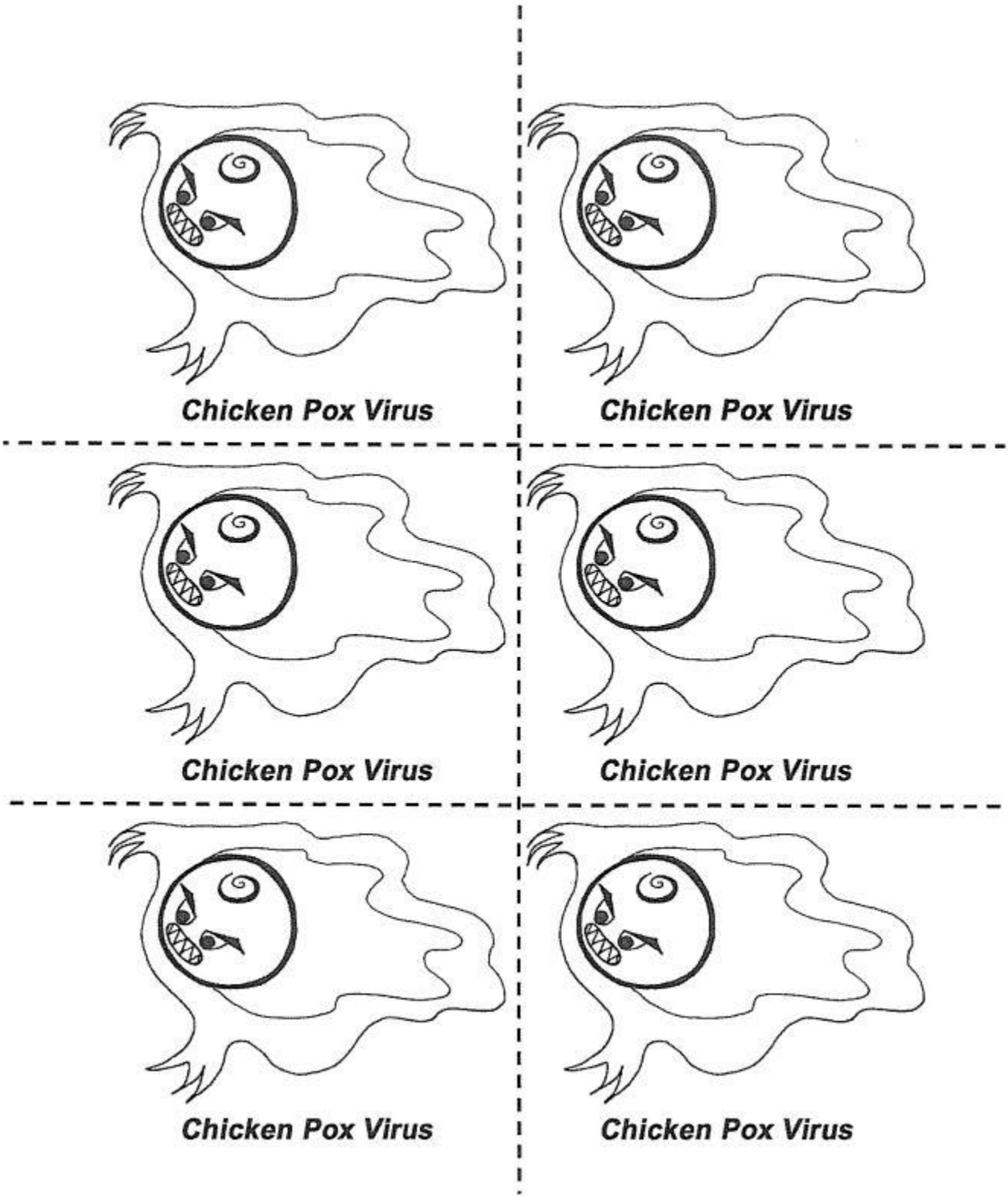
“Spread the Germ Game” Cards

Grade 5: Handwashing Crossword Puzzle

Source: https://www.glogerm.com/worksheets.html

Grade 6: Secret Code Handwashing Game

Source: https://www.glogerm.com/worksheets.html



Common Cold Virus

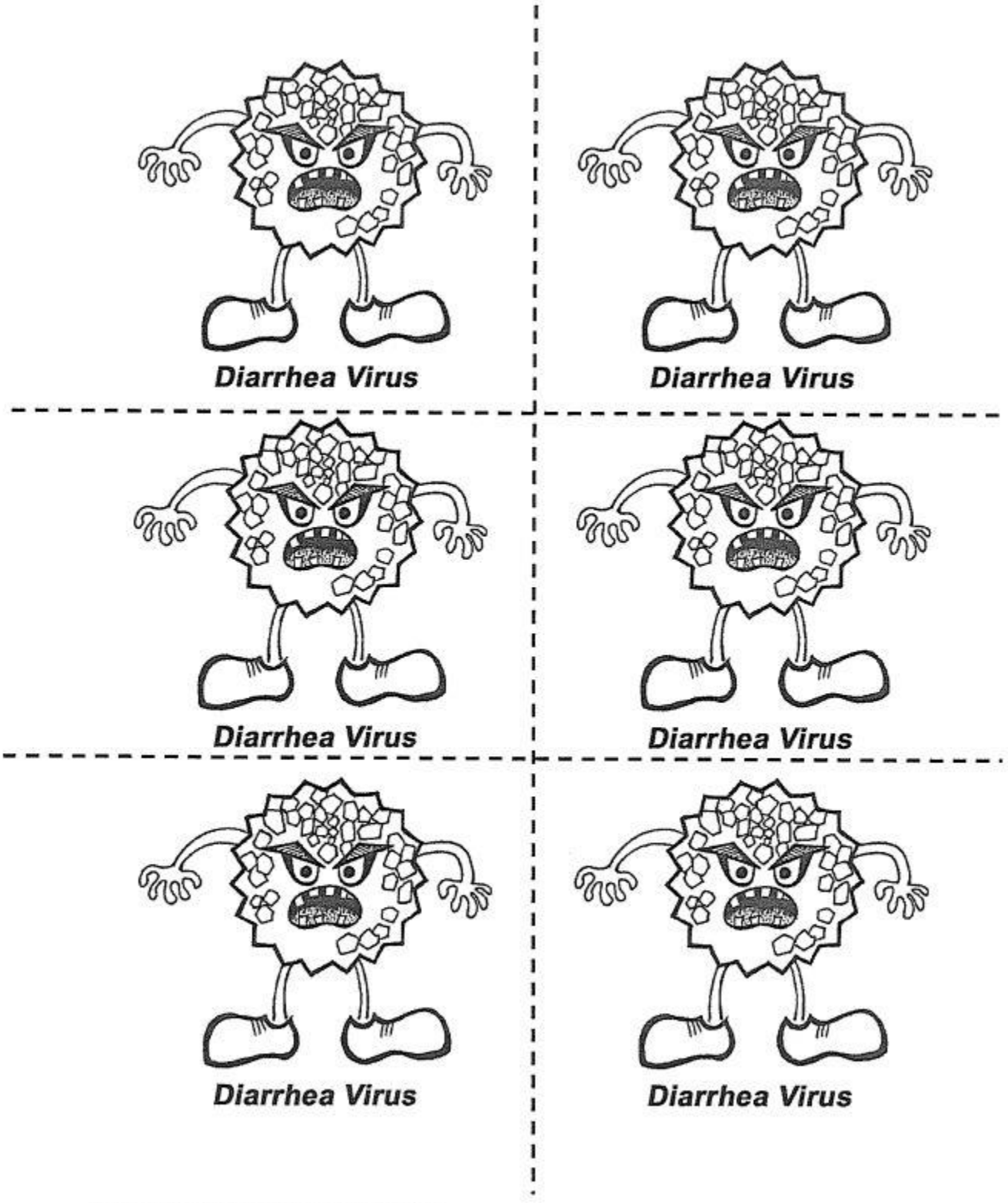
Common Cold Virus

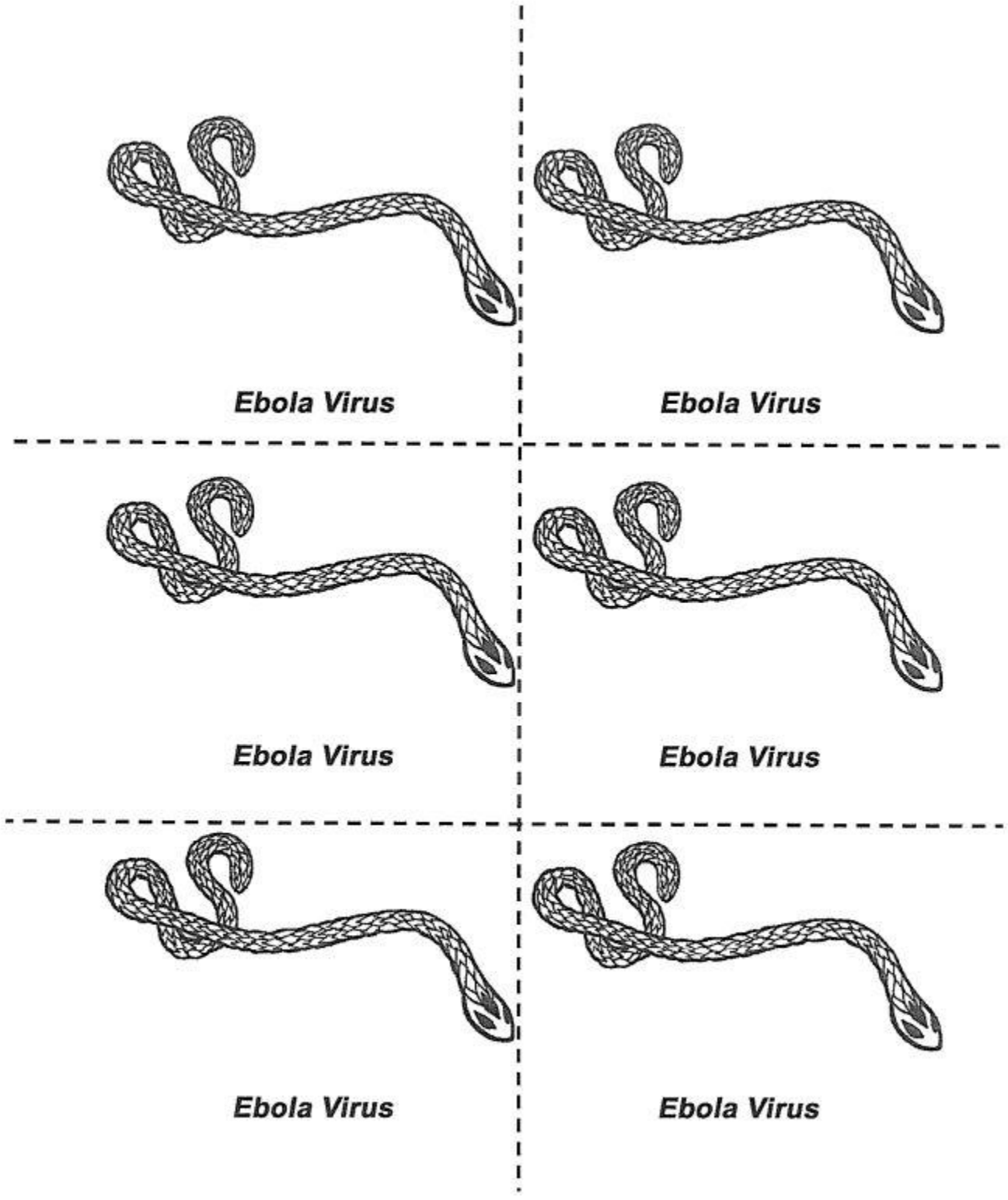
Common Cold Virus

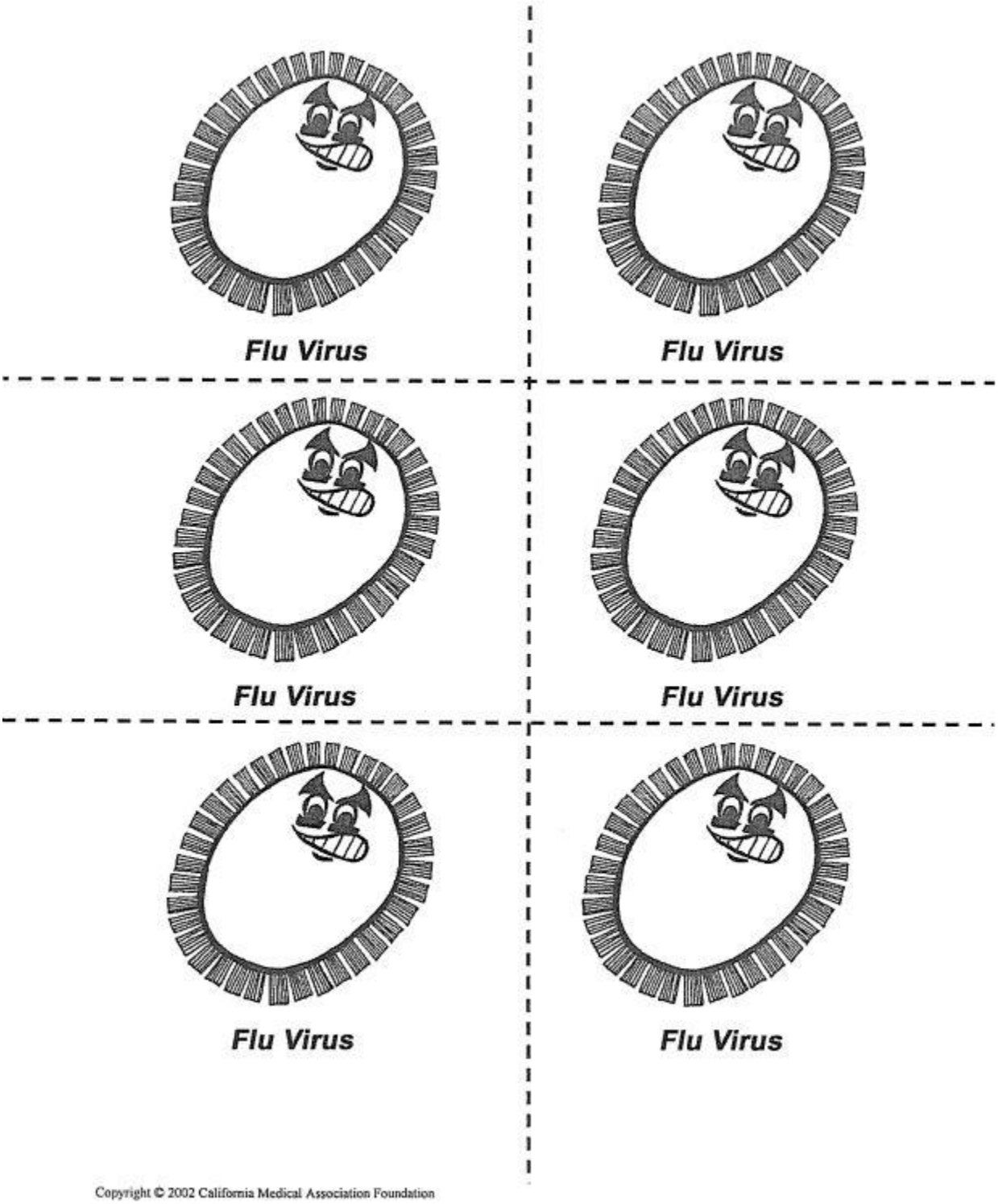
Common Cold Virus

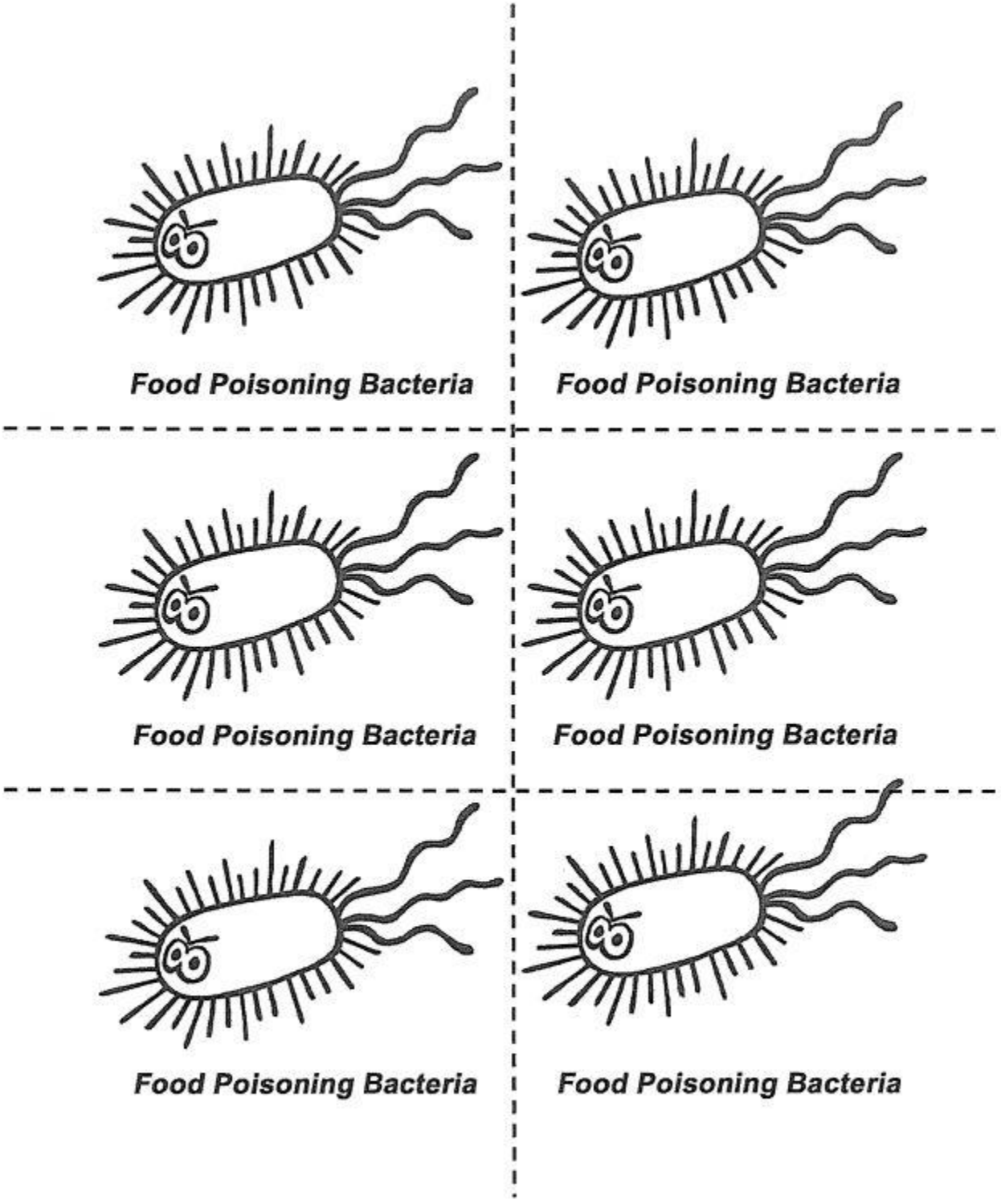
Common Cold Virus

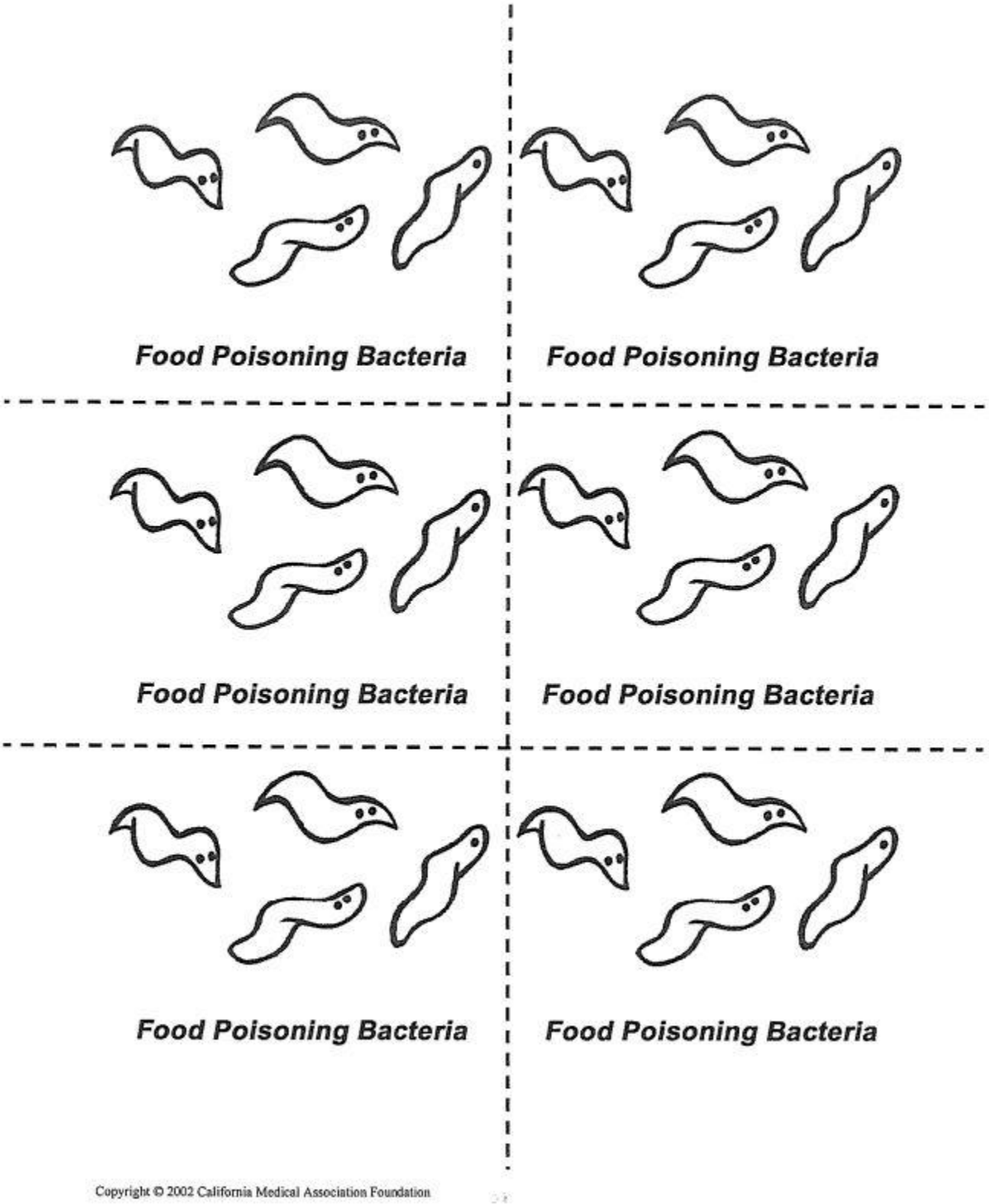
Common Cold Virus

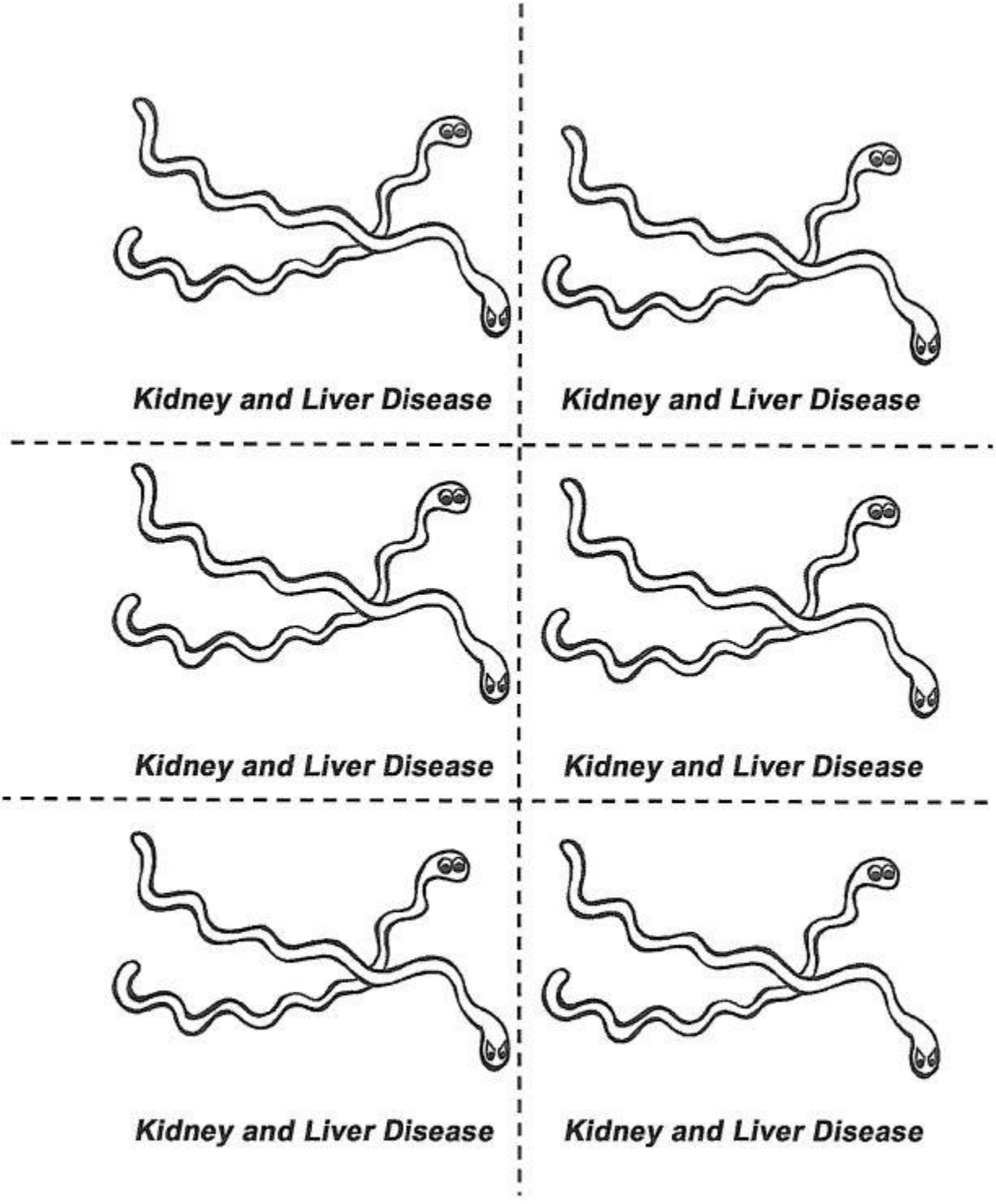






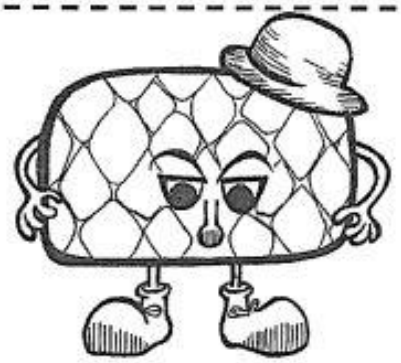



Food Poisoning Bacteria
Food Poisoning Bacteria
Food Poisoning Bacteria
Food Poisoning Bacteria
Food Poisoning Bacteria
Food Poisoning Bacteria
Copyright © 2002 California Medical Association Foundation



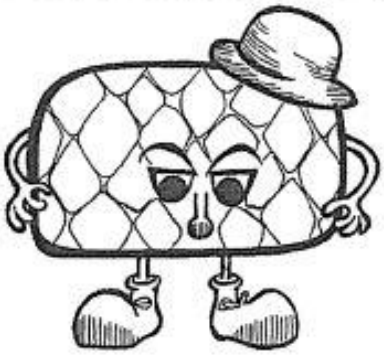
Smallpox Virus

Smallpox Virus

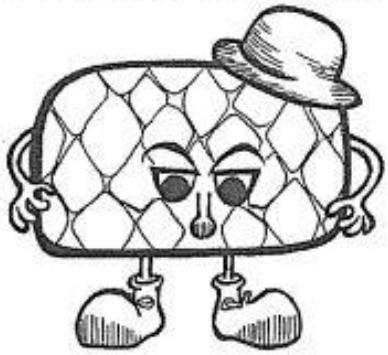


Smallpox Virus

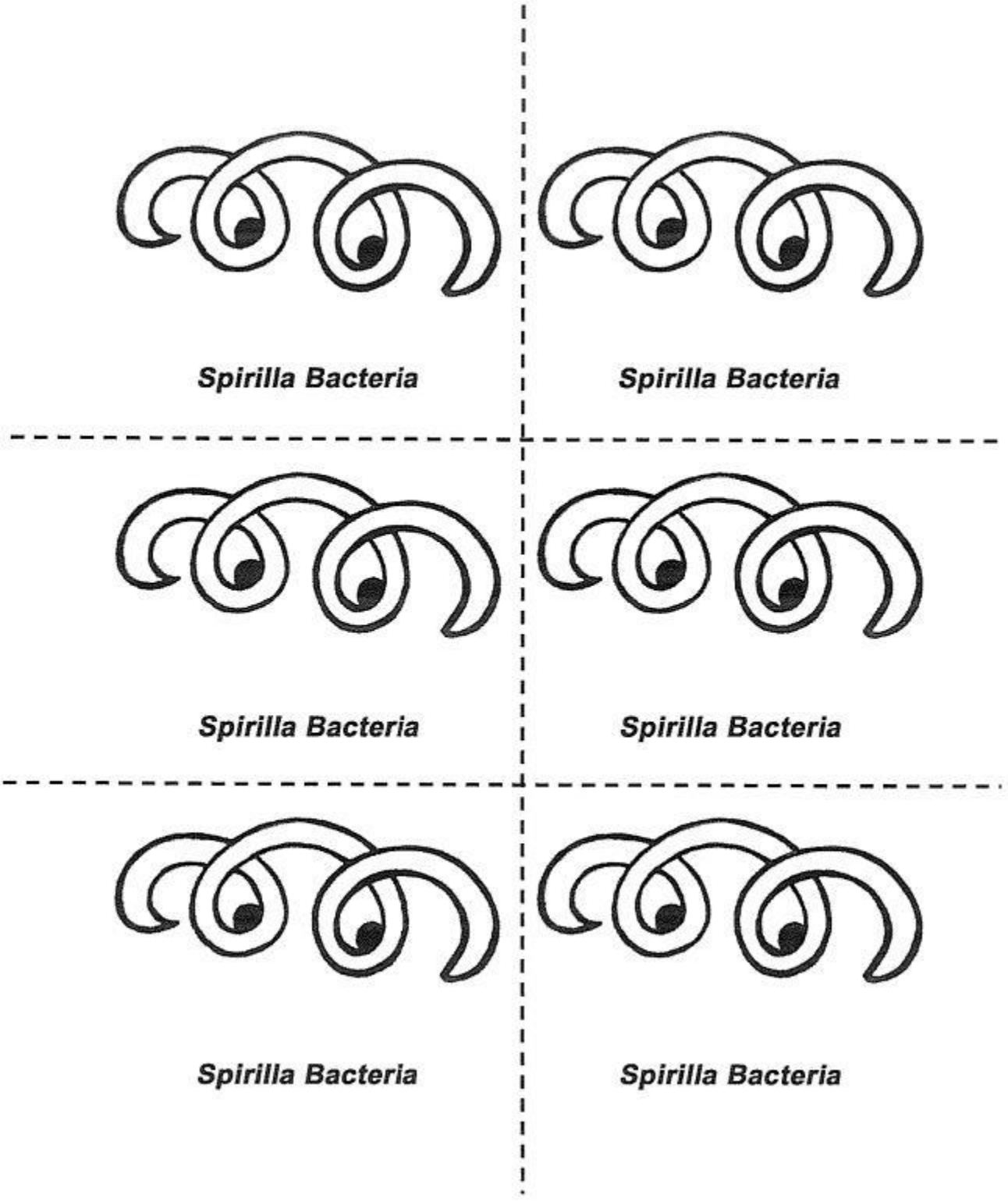
Smallpox Virus

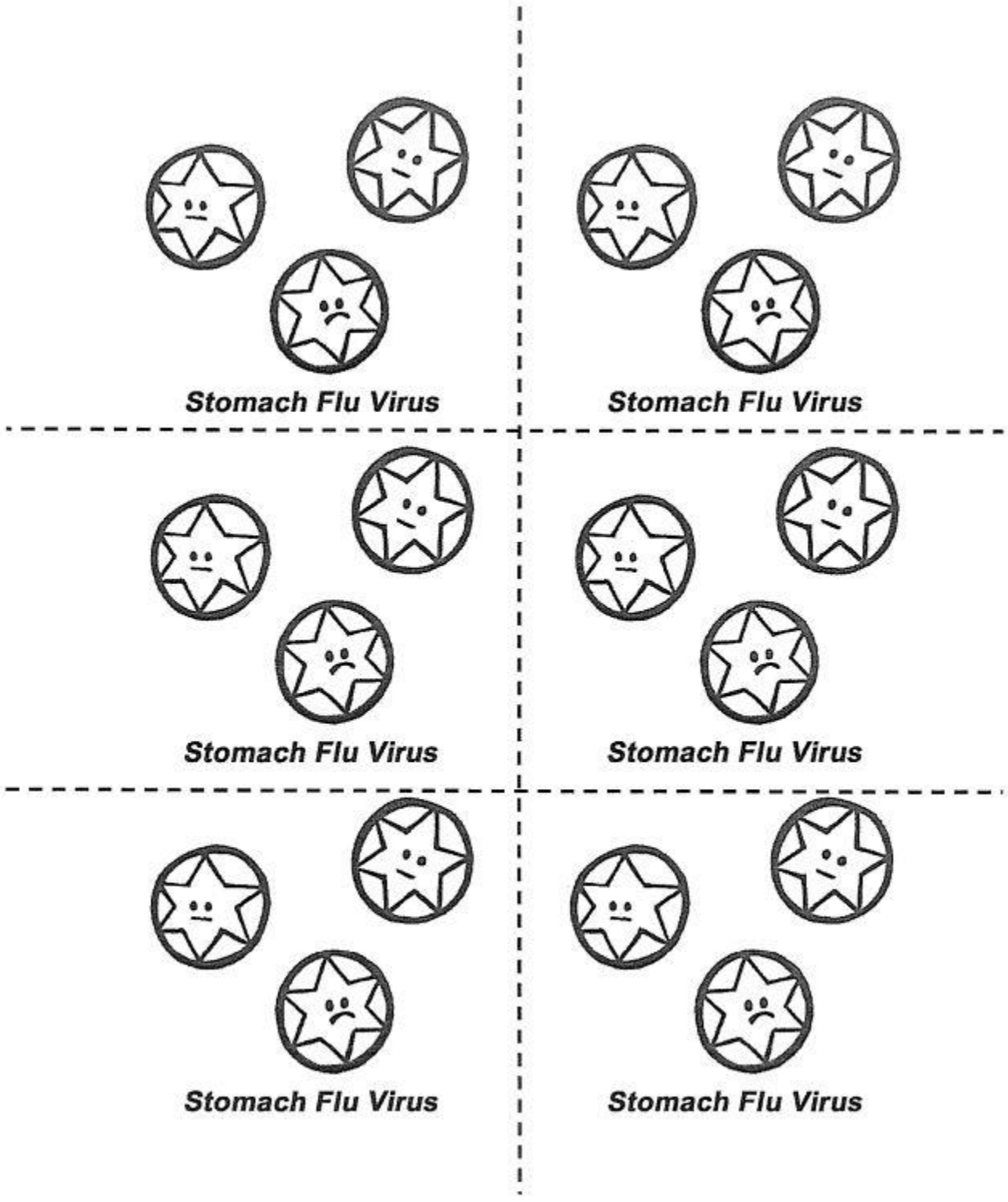


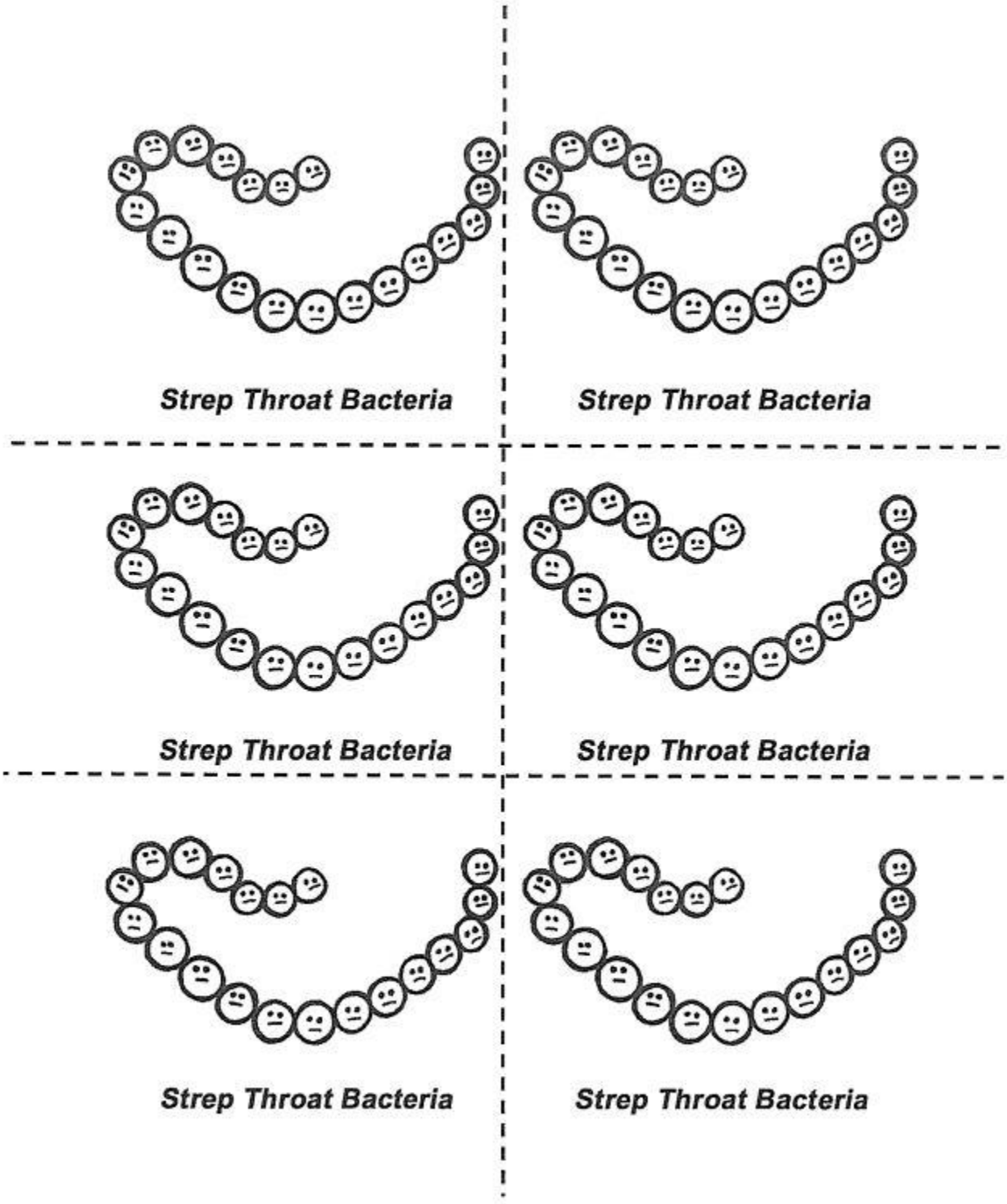
Smallpox Virus

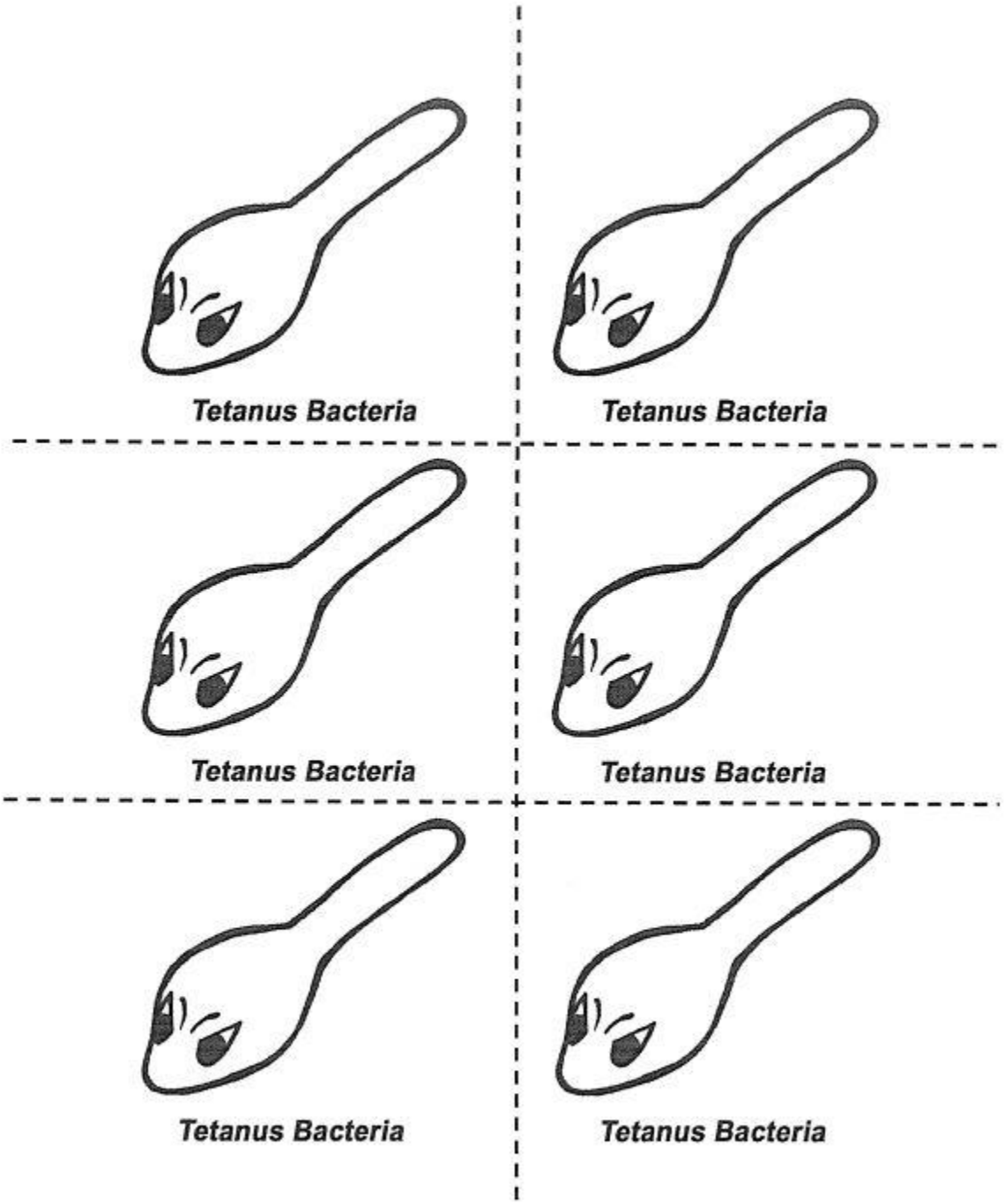


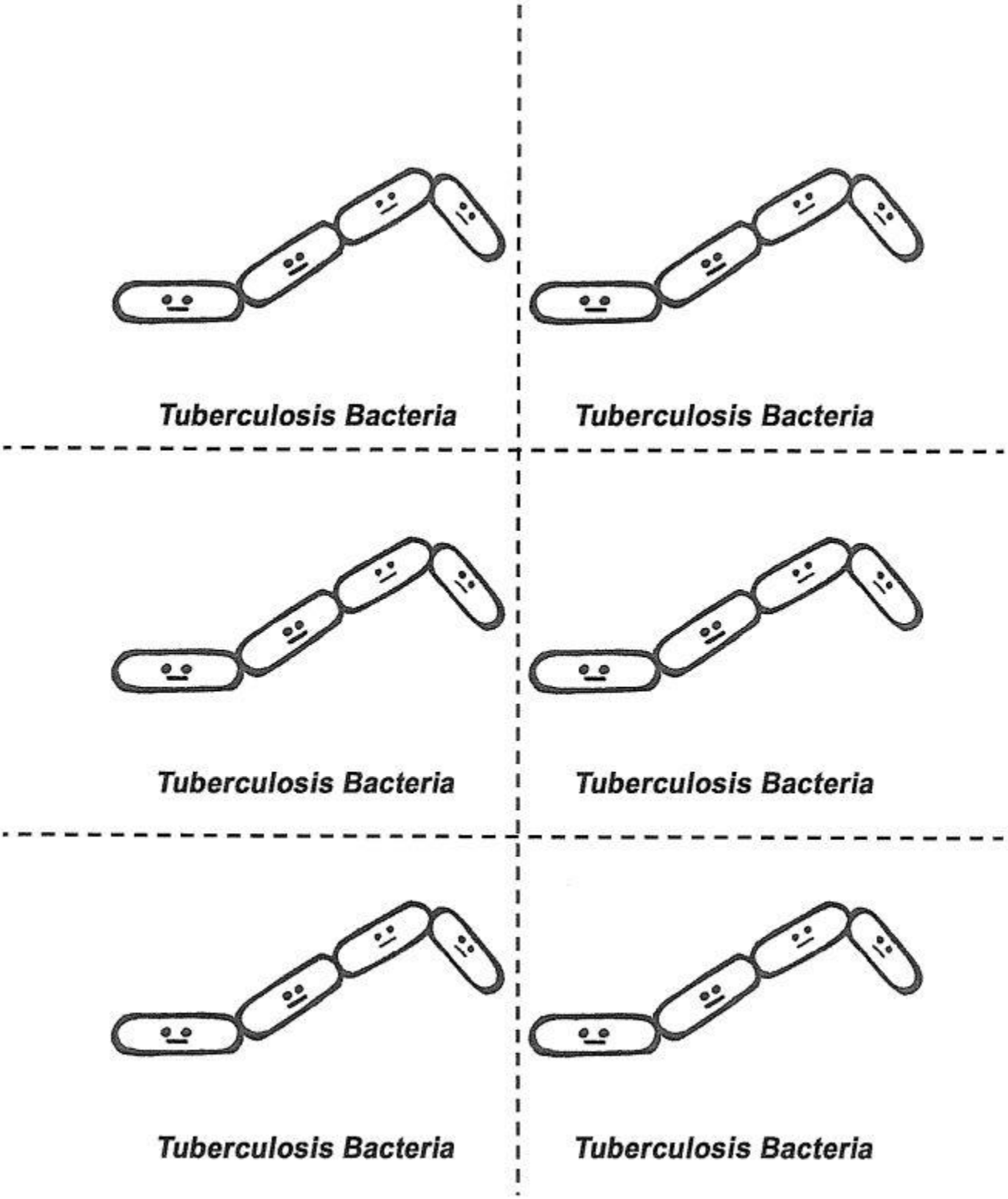
Smallpox Virus











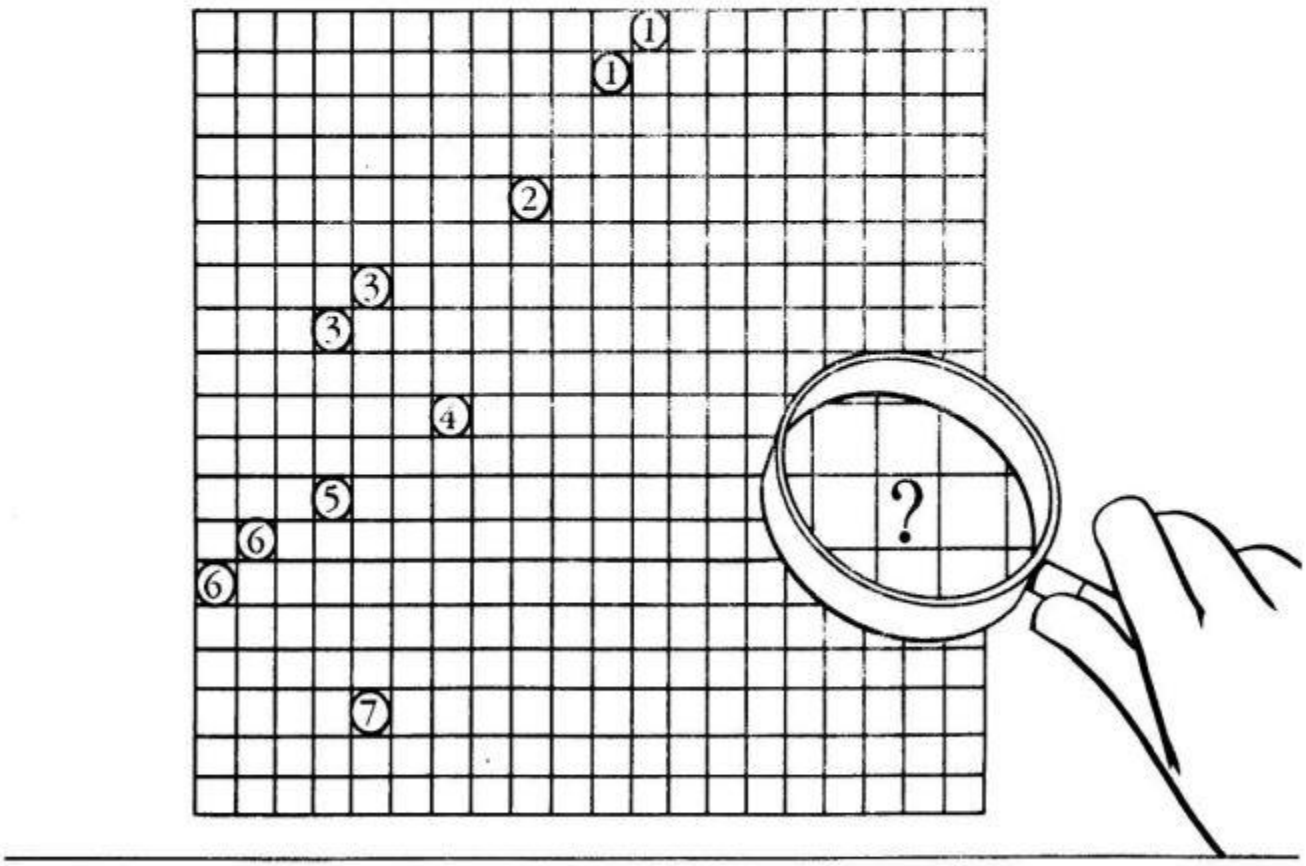
Hand Washing Crossword Puzzle

Across

1. _____ is caused by a virus and can be spread by not washing your hands after using the bathroom.
3. When washing hands rub hands together _____.
5. When washing your hands make sure to use a lot of _____.
6. The most important time to wash your hands is after using the _____.
7. The most important part of your hands to wash is under the _____.

Down

1. The best prevention against disease is _____ (Two words).
2. When washing hands use _____ water.
3. The germ that causes hepatitis A is a_____.
4. The germ that causes Shigella is a_____.
6. When washing hands rub together for _____ seconds.



Name_____

I pledge to wash my hands regularly

GLOGERM
P.O. Box 189, Moab, Utah 84532
435-259-5693 • 800-842-6622
435-259-5930 Fax
www.glogerm.com
dma@glogerm.com

Secret Code Hand Washing Game

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

Secret code letters are in parenthesis below. Match the code letters to the actual letters to spell a word relating to hygiene.

1. Type of germ that causes hepatitis A is a _____.
   (E R I F H)
2. Wash your hands for at least _____ _____ seconds .
   (G D V M G B)
3. When washing your hands use _____ water .
   (D Z I N)
4. Hand washing soap should be _____.
   (Z M G R Y Z X G V I R Z O)
5. Most important part of hands to wash is under the _____.
   (U R N T V I M Z R O H)
6. Germs can be spread at least _____ different ways.
   (U L F I)
7. When washing your hands rub together _____.
   (E R T L I L F H O B)
8. The best prevention against infectious disease is _____.
   (S Z M W D Z H S R M T)
9. The type of germ that causes Shigella is a _____.
   (Y Z X G V I R Z)
10. The most important time to wash your hands is after using the _____.
    (G L R O V G)

Name_____

I pledge to wash my hands regularly

GLOGERM
P.O. Box 189, Moab, Utah 84532
435-259-5693 • 800-842-6622
435-259-5930 Fax
www.glogerm.com
dma@glogerm.com