



Facing Fear 6–8

Tough Issues

LESSON PLAN 5

Flu Pandemic

We all need to understand that there are things we can do every day to prevent the spread of disease, even during a pandemic.

Key Terms and Concepts

avian flu	flu	seasonal flu
common cold	flu pandemic	symptoms
contagion	germs	treatment
contagious	immune	vaccination
diagnosis	pandemic flu	virus
epidemiologist	prevention	upper respiratory

Purpose

To understand the ways that people can help prevent the spread of disease

Objectives

The students will—

- Research to create a class chart to define and differentiate among seasonal flu, avian (bird) flu, the common cold and pandemic flu.
- Research to create a Web page entitled “Frequently Asked Questions About Pandemics” with questions the school community may ask and the answers.
- Read *Is It a Cold or the Flu?* to determine the differences between the two types of viruses; create profiles of fictitious patients to challenge the class to diagnose their ailments and recommend treatment.
- Use *How Do You Feel?* to help families identify cold or flu symptoms. (Home Connection)
- Work together to classify words and phrases that explain the meaning of “contagious.”
- Complete *Trace the Spread* to demonstrate and discuss how easily germs are passed from person to person in the classroom.
- Create a class infection tree to determine the ways the spread of flu can be slowed or halted.
- Research and write an article for the PTA newsletter to explain the importance of the flu vaccine. (Home Connection)
- Create a comic strip or scenes from a cartoon to tell the story of catching a cold. (Linking Across the Curriculum)
- Create and deliver presentations to educate specific audiences about ways to prevent the spread of colds or flu.



Visit the American Red Cross Web site
at www.redcross.org/disaster/masters



Facing Fear

6-8

LESSON PLAN 5

Flu Pandemic

- Use the Internet to guide their own plans for a school or community campaign to make “sneeze into your sleeve” more commonly accepted and practiced when tissues are not available. (Linking Across the Curriculum)

Activities

- “The Flu”
- “Diagnosis”
- “Contagious”
- “Prevention”



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Facing Fear 6-8

LESSON PLAN 5 Flu Pandemic

Materials

- Chalkboard and chalk or chart paper and markers
- Access to resources for research, online or in the media center or library
- Chart paper and a marker for each student




Visit the American Red Cross Web site at www.redcross.org/disaster/masters



"The Flu"

SET UP 5 minutes CONDUCT 30 minutes, plus research

Language Arts: Vocabulary and Research; Science: Health

1.  Create a chart with the following terms on the chalkboard and ask the students to create a similar chart at their desks.

Seasonal Flu	Avian (Bird) Flu
Common Cold	Pandemic Flu

2. Provide time for the students to write two or three things they know that would define or illustrate the meaning of each of the words. Next, have the students discuss their ideas with another student—adding to their charts, or editing or deleting information the students believe may be incorrect. Have the students repeat this exercise with at least two more students.
3. Now, tell them to use their charts to fill in the class chart. How would the students classify the types of information included in the chart? (Symptoms, causes, likenesses, differences and prevention.) Where is the information the weakest? What more information do they need?
4. Count off the class members: one; two, three, four; one, two, three, four; and so forth. All the number ones will be searching for needed information on seasonal flu; the twos will search for avian flu; the threes for common cold; and the fours for pandemic. Remind the researchers that the most important pieces of information will help the class define and differentiate among the terms.



Facing Fear 6–8

LESSON PLAN 5 Flu Pandemic



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TEACHING NOTE Check these excellent online resources:

- American Red Cross
(<http://www.redcross.org/news/ds/panflu/>)
- Centers for Disease Control and Prevention
(<http://www.cdc.gov/flu/>)
- Department of Health and Human Services
(<http://pandemicflu.gov>)



Wrap-Up

Come together as a whole class.



Have the students complete the class chart, filling in the missing information in each of the squares.

Answers will vary, but may include—

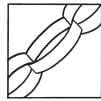
- Seasonal flu is a contagious respiratory disease caused by viruses. In the United States, there is a flu season that begins every fall and ends every spring. The type of flu people get during this season is called “seasonal flu.” Seasonal flu spreads by contact with people who have the flu, but most people have some immunity to it. Symptoms include headache, sore throat, runny or stuffy nose, fever, cough, muscle pain and tiredness. Complications, such as pneumonia, are more likely among older adults, people with chronic respiratory problems and children. Vaccines are produced every season to protect people from common flu viruses.
- Avian flu is commonly known as “bird flu”; this strain of influenza virus occurs naturally in birds. Wild birds can carry the virus and not become ill; however, domestic birds may become infected by the virus and die from the illness. It is also possible for birds to infect people with the virus causing serious illness and sometimes death.
- Common cold is a relatively mild virus. It is highly infectious and can affect the nose, throat and upper respiratory system. Symptoms include sneezing, sniffing, runny nose or congested nasal passages; scratchy or sore throat; coughing; or headache. Colds usually last 3 to 10 days, but the coughing could last longer.
- Pandemic flu was named based on the combination of *pan*, meaning “all,” and *demos*, meaning “people.” If a disease spreads across borders, it can cause a pandemic. The last flu pandemic occurred in 1968–1969, with estimates of more than 34,000 deaths in the United States and over 700,000 worldwide. The symptoms are similar to seasonal flu, but there is no vaccine ready to be produced.

Ask the class: Why is it important to be able to differentiate among these terms? (People often misunderstand or confuse the terms and can jump to the wrong conclusions when hearing reports in the media.)



Facing Fear 6-8

LESSON PLAN 5 Flu Pandemic



Linking Across the Curriculum

Science: Health and Technology; Language Arts: Reading and Writing



The words “pandemic flu” frighten many people because often they don’t understand the facts or the impact of such a health crisis. Guide students in creating a page entitled “Frequently Asked Questions About Pandemics” on the school’s Web site, with questions and answers students and their families might want to know.

First, have the class make a list of questions they would like to answer. They may include—

“Should I wear a mask?”

“Can my dog contract avian flu?”

“Is it okay to eat chicken during an avian flu pandemic?”

“What events would lead up to school closing in the event of a flu pandemic?”

“What is the school plan in case of closing?”

Then, assign the students to research to find the answers to the questions, using reliable sites, such as—

- American Red Cross (<http://www.redcross.org/news/ds/panflu/>)
- Centers for Disease Control and Prevention (<http://www.cdc.gov/flu/>)
- Department of Health and Human Services (<http://pandemicflu.gov>)

Students can also research the school’s pandemic flu plan to determine events leading up to a school closing; what to look and listen for, such as public health announcements; how school closing and reopening announcements will be communicated; how students will receive and turn in homework assignments; or other items addressed in the plan. They may also compile lists for safe activities they can do to stay busy at home.

Finally, have them post on a Web page the school and district policy on pandemics to help families understand what to do.



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Facing Fear

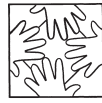
6–8

LESSON PLAN 5

Flu Pandemic

Materials

- *Is It a Cold or the Flu?*, 1 copy per group
- *How Do You Feel?*, 1 copy per student (Home Connection)



“Diagnosis”

SET UP 10 minutes CONDUCT 45 minutes

Science: Health; Mathematics: Problem Solving

1. Ask the students if they can tell the difference between a cold and the flu. (All answers are acceptable.) Next, tell them that they are going to become diagnosticians—determining the disease by the type of symptoms.
2. Divide the class into small groups and distribute *Is It a Cold or the Flu?* Have the students read the information. Then, provide time for them to create a profile of plausible symptoms for a fictitious person—things a patient might tell his or her doctor. They will use this “symptom profile” to challenge others to make a diagnosis and recommend treatment for the patient.



Wrap-Up

Call the groups back together. As each group describes the symptom for its fictitious patient, have the rest of the class act as diagnosticians to determine what treatment will help make the patient feel better.



Listen carefully as the students present their symptoms: Are they consistent? Do the diagnosticians take into consideration limiting or descriptive terms, such as “a little,” “severe” or “sometimes”? Can they describe the reasons for their diagnosis? What are their suggested treatments?

Answers will vary, and a sample scenario follows.

Patient: Doctor, I feel terrible. My head is pounding. I’ve had a raging fever for two days. I’m completely exhausted and my throat is a little scratchy. What’s the matter?

Doctor: You have the flu. Severe headaches, high fevers and extreme exhaustion are associated with flu, not colds. A sore throat is most often a symptom of a cold, but can occur with the flu as well. Take this antiviral medication and take medicine to control your fever. It will take time for you to feel better. Rest and don’t go to school. The flu is highly contagious.

TEACHING NOTE Remind students that only medical professionals are qualified to make actual diagnoses when someone is ill.



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Facing Fear 6-8

LESSON PLAN 5 Flu Pandemic



Home Connection

Send home *How Do You Feel?* with students to complete with their families, illustrating the parts of the body and how they are affected by the flu or a cold. Ask them to work as a family to indicate which symptoms belong to the flu and which ones to colds. Where is the overlap? Can they tell one from the other based only on symptoms, not tests?

TEACHING NOTE If your students did not complete "Diagnosis" above, you may want to send home *Is It a Cold or the Flu?* with them as well.



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Facing Fear 6–8

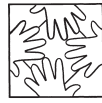
LESSON PLAN 5 Flu Pandemic

Materials

- Chalkboard and chalk or chart paper and markers
- White sticky dots or sticky notes, 1 per student desk
- Blue and green markers
- *Trace the Spread*, 1 copy per student



Visit the American Red Cross Web site
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"Contagious"

SET UP 10 minutes CONDUCT 55 minutes

Science: Health and Inquiry; Mathematics: Classification

TEACHING NOTE Before class, color blue dots on two or three of the sticky notes to signify infection and color green dots on two or three sticky notes to signify immunity due to the flu shot. Then, place an unmarked, blue or green sticky note underneath each student's desk. You can also use white, green and blue sticky dots instead of coloring dots on sticky notes. This activity has been adapted from online lessons made available by NOVA, the PBS science series; the Centers for Disease Control and Prevention; and the Discovery Channel.

1.  Write the word "contagious" in the center of the chalkboard. Ask the students to tell you words and phrases they think about when they hear the word "contagious." (Answers will vary, but may include—colds, flu, stomach virus; germs; sneezes, coughs; catch a cold; pass from person to person; wash your hands, use a tissue and cover your mouth when you cough or sneeze) Write these words and terms on the chalkboard.

TEACHING NOTE Remind students that their illness can be contagious before the symptoms of a cold or flu appear.

2. As a class, classify the terms. (Things that are contagious; ways to spread an illness; the meaning of the word; and ways to prevent passing an illness to someone else.) Assign a color of chalk to each of the students' classifications and have them circle each word that belongs within the categories. Now, write a class definition of "contagious" using the categorized terms and covering each category.
3. Next, explain to the students that they will act as scientific researchers from the Centers for Disease Control and Prevention (CDC) to trace the spread of a contagious disease, like the flu, in order to isolate those who have contracted it. First, they will set up the medical emergency.
4. Distribute *Trace the Spread* to each student and ask each one to write the names of two students in the first set of squares. Then, write the names of two different students in the second set of squares and, finally, two other students in the third set of squares.



Facing Fear 6–8

LESSON PLAN 5 Flu Pandemic

Materials

- Construction paper
- Markers or crayons



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Wrap-Up

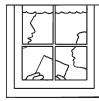
Ask the students to look under their desks to find their color dot. Have them record this information—blue means they were infected originally; green, they were immunized; and white, they can be infected. Work as a class to complete the infection tree on the activity sheet.



Have the students discuss the spread of the flu. Could it have been possible to stop or slow its spread through the classroom? (Answers will vary, but may include—If the first infected students had known they were infected, they could have stayed away from others, made sure they covered their mouths when they sneezed or coughed and washed their hands well with soap and water. Their used tissues should have been tossed away immediately and the students should have been sure not to share food.)

Since flu can be spread by contacting germs on surfaces and putting them near your mouth, eyes or nose, the spread could have been slowed if all the students had washed their hands well with soap and water and washed areas where germs might exist. More of the students could have gotten flu vaccine when available, so they might not have caught the flu even though they had come in contact with it.)

TEACHING NOTE The CDC and other public health experts tell us the best way to cover a cough or sneeze, if you don't have a tissue, is to sneeze into your sleeve, elbow or upper arm. In this way, the germs are not put on your hands where they can be spread.



Home Connection

Challenge groups of students to find out more about the flu vaccine. Areas for research might include—How is it produced? How and to whom is it dispensed? Is it effective? Why is it needed every year? As a class, use the research to write an article in the PTA newsletter to help the school community understand the need for flu vaccines.

The CDC is an excellent source of information about the flu vaccines (<http://www.cdc.gov/flu/about/qa/flu vaccine.htm>).



Linking Across the Curriculum

Language Arts: Vocabulary and Writing; Fine Arts: Visual Arts

Have the students talk about the phrase “catch a cold.” What images do they think of when they hear that expression? Distribute paper and markers and ask the students to draw panels for a comic strip or scenes from a cartoon that would tell the story, literally, of catching a cold.



Facing Fear 6–8

LESSON PLAN 5 Flu Pandemic

Materials

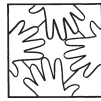
- Computer with a presentation program, like PowerPoint, and an LCD projector

OR

- Transparencies and transparency markers, plus an overhead projector



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“Prevention”

SET UP 5 minutes **CONDUCT** 45–60 minutes, plus time for group presentations

Language Arts: Writing; Science: Health

1. Work together to create a class list of ways to prevent spreading the flu: Wash your hands before you eat and after you use the bathroom; sneeze into a tissue and throw it away, or if you don't have a tissue, sneeze into your sleeve; stay away from others when you're sick; when there's no soap and water available, use alcohol-based hand sanitizers to wash your hands; and get flu vaccinations each year.
2. Divide the class into small groups and provide access to a computer and presentation program, like PowerPoint; or, distribute transparencies and markers. Have the groups turn the list of prevention techniques into a presentation.

Before they begin designing their presentation, make sure the students choose a target audience: younger students, their peers, the PTA, the community. Then, have them design and produce an appropriate presentation to educate the public on preventing the spread of the flu.



Wrap-Up

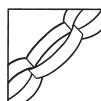
Share presentations and guide the students to critique each other's presentation.



Critiques should take into account the following:

- Do the presentations illustrate the importance of taking action and using proper techniques to prevent the spread of flu?
- Do the presentations use effective images and words for the target audience?
- Do the presentations deliver the correct message of prevention?

Invite student groups to use their presentations in the appropriate settings for their audience: a grade level meeting in the cafeteria, a PTA meeting, a tour of younger students' classrooms.



Linking Across the Curriculum

Language Arts: Communication and Media Literacy

For this activity you will need a computer with Internet access.



Although the U.S. Department of Health and Human Services, the CDC and the American Red Cross support “sneeze into your sleeve” as the correct way of preventing the spread of germs when you do not have a tissue, it may not yet be a common practice.



Facing Fear 6-8

LESSON PLAN 5 Flu Pandemic

Ask the students to discuss the best way to cover a cough or sneeze. (Cover your mouth or nose with a tissue and toss it away immediately.) Ask—What do you do if you don't have a tissue? (Use the inner part of your elbow or the upper part of your arm.)

Have the students access the Internet to watch Dr. Ben Lounsbury's "Why Don't We Do It in Our Sleeves?" (<http://www.coughsafe.com/media.html>) or check the CDC's Web site (<http://www.cdc.gov/flu/protect/covercough.htm>). Ask them to critique the information from the video: Is it complete? Is it correct? Is it effective? Why or why not?

Lead a class discussion of the social acceptability of using your sleeve to cover a sneeze or cough if you don't have a tissue. Then, as a class or in small groups, have the students design a plan to help make this method more commonly practiced in their school or community when tissues are not available. As a class, select the most practical ideas and begin to implement the campaign.

TEACHING NOTE Dr. Lounsbury's film is copyrighted. If your class plans to use the video in a format other than having people view it on the site, you'll need permissions. Visit Dr. Lounsbury's home page to find out more (<http://www.coughsafe.com/index.html>). You may also wish to check the posters available from the CDC site (<http://www.cdc.gov/flu/protect/covercough.htm>).



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Is It a Cold or the Flu?

Page 1 of 2

Name _____

Directions: When you are sick, you may not care if it's the flu or a cold. However, it's important for your doctor to know exactly how you feel to diagnose your illness and prescribe the right treatment. Below is a chart that can help you better understand the difference between a cold and the flu.

Symptoms	Cold	Flu
Fever	Rare	Usual; high (100° F to 102° F; occasionally higher, especially in young children); lasts three to four days
Headache	Rare	Common
General Aches, Pains	Slight	Usual; often severe
Fatigue, Weakness	Sometimes	Usual; can last as long as two to three weeks
Extreme Exhaustion	Never	Usual; at the beginning of the illness
Stuffy Nose	Common	Sometimes
Sneezing	Usual	Sometimes
Sore Throat	Common	Sometimes
Chest Discomfort, Cough	Mild to moderate; hacking cough	Common; can become severe





Is It a Cold or the Flu?

Page 2 of 2

Treatment

Cold

Flu

Antihistamines
Decongestant

Antiviral medicines; see your
doctor

Nonsteroidal
anti-inflammatory
medicines

Over-the-counter medicines for fever,
sore throat and headache

Prevention

Wash your hands
often

Annual vaccination; antiviral
medicines—see your doctor

Avoid close contact
with anyone with
a cold

Wash your hands and avoid close
contact with anyone with the flu

Adapted from “Is It a Cold or the Flu?” by the U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Allergy and Infectious Diseases, September 2005.

Available at <http://www.niaid.nih.gov/publications/cold/sick.pdf>. Accessed on March 1, 2007

Now, consider these symptoms as you write what a fictitious patient might say on a visit to the doctor. Challenge others to diagnose the illness.



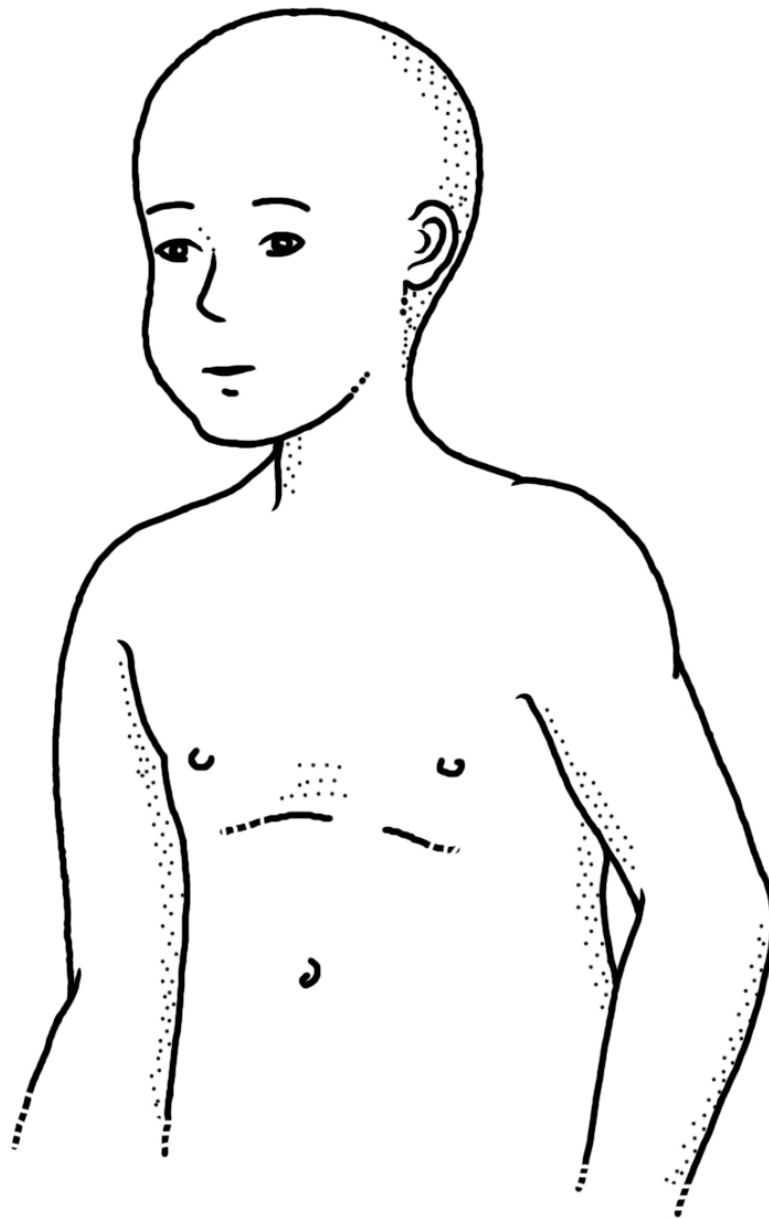


How Do You Feel?

Page 1 of 1

Name _____

Directions: When you have the flu or a cold, you really feel bad. Some of the symptoms are similar, but may be more severe in one illness or the other. Use markers to color the areas that are affected by a cold or flu. Label and describe how each part of your body feels.





Trace the Spread

Page 1 of 2

Name _____

Directions: Stopping the spread of the flu often means finding and isolating those who have contracted the illness. Follow the steps below to be part of an experiment to simulate the spread of the disease. Then, acting as epidemiologists from the Centers of Disease Control and Prevention, use the infection tree to trace the way the disease could spread within the classroom.

My Name		
Names of any two classmates	1	2
Names of any two other classmates	1	2
Names of any two other classmates	1	2

Check the color of the dot under your desk:

Blue = flu Green = immunization White = uninfected, but not immunized

Were you infected initially?

Find out the color assigned to each of the classmates you listed. If you were not infected initially or were immune, when were you infected? Once infected, which classmates did you infect?

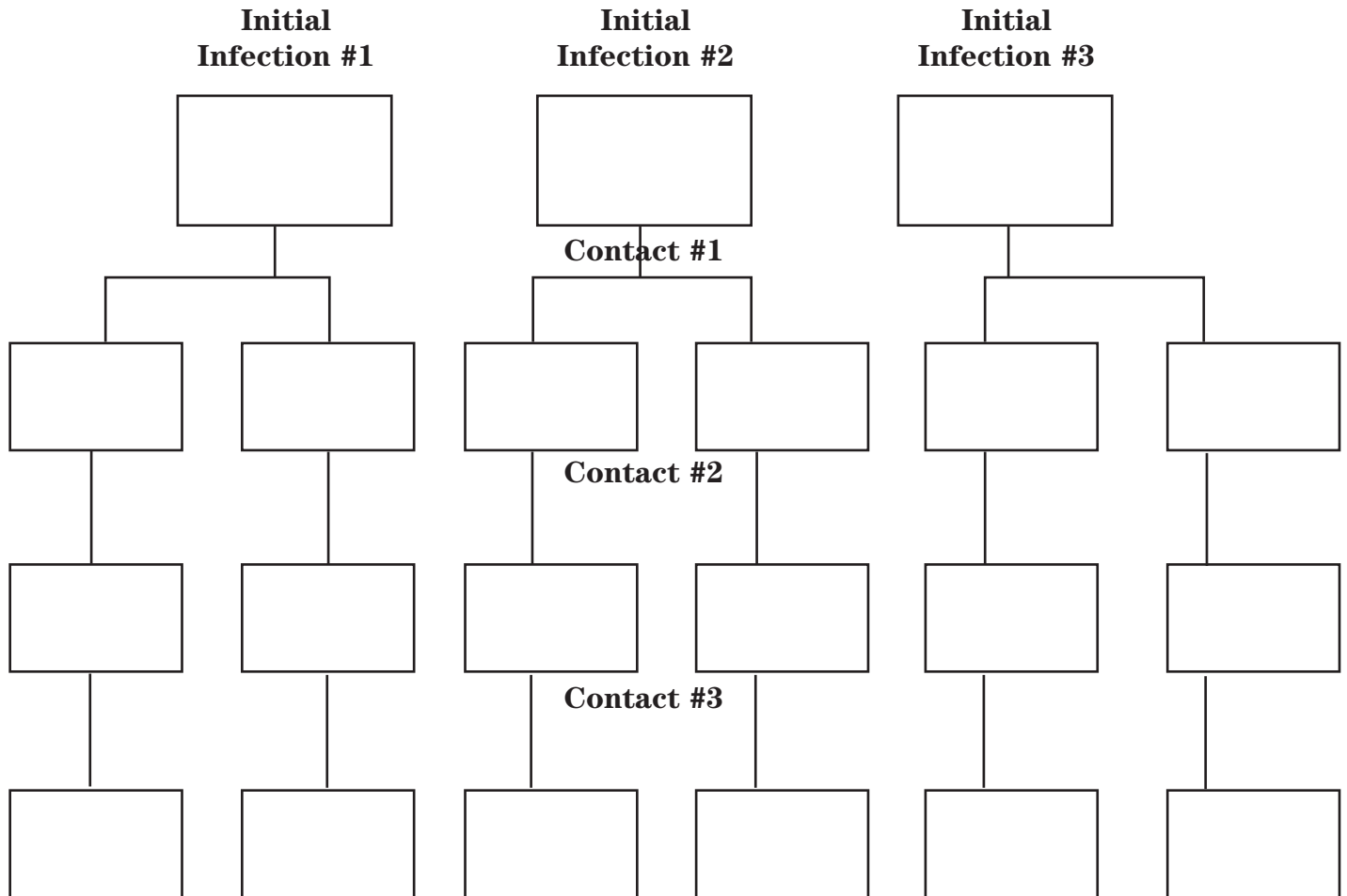




Trace the Spread

Page 2 of 2

Now, work with the class to complete the infection tree below. First, list the names of those students infected initially. Then, follow their contacts.



Discuss the spread of the flu. How did those who had the flu shot change the spread of the flu through the classroom? In what other ways could it have been possible to stop or slow the spread of the flu?

