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Module 05: Public Health & Water Quality

Urban EcoLab

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## Student Pages - You Are the PHI

Center for Urban Resilience

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Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class/Period: \_\_\_\_\_

**Lesson 5.1 You are the PHI**

**PHI:**  
PUBLIC HEALTH INVESTIGATOR

**Objective:** In this activity, you are playing the role of a Public Health Investigator (PHI)\* assigned to a case. In your city, there has been a recent outbreak of sickness that is affecting dozens of people. The doctors report that the illness is caused by a bacterial infection. All of these people have reported a similar illness over the past 24 hours. They have reported nausea, diarrhea, fever and chills. However, the infection is generally not transferable from person-to-person. Therefore, people who are sickened by the bacteria must be acquiring the infection from a source.

Your job is to help find the source of infection and work with medical professional and public works employees to eliminate the risk to other people. You are going to the hospital to interview the people who are sick and in order to discover if there is any information that might lead you to the source of the outbreak. You are asking them about their activities over the past week. One thing you know for sure is that the city drinking water has been tested and is safe.

Below are some transcripts from your interviews. Read over the transcripts carefully and see if you find any patterns that might help you discover the source of the infectious outbreak. Using the case studies provided below, and the data available throughout the classroom, you are going to figure out how the people got sick, or at least try to pinpoint where they got sick. You are searching for common activities that they participated in that may reveal clues to their illness. These are the actual steps that a public health agency would go through when an outbreak occurs. Hurry, as the number of people being made sick by the outbreak is mounting!

**Directions:**

1. Read each of the scenarios below and distributed throughout the class room at various data stations.
2. Look for details of their activities.
3. On the data sheet below, list the key activities in which each of the people participated.
4. From the data you collected, provide your best analysis as to where the infection may have spread or had its origin.

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\* In the real world, “public health investigators” are called public health workers.



## CASE FILE

### **PHYSICIAN REPORT:**

Time Frame: cases present for past 24 hours

City-Wide Impact: dozens of people

Symptoms: nausea, diarrhea, fever, and chills

Preliminary Diagnosis: **BACTERIAL INFECTION**

### **WATER SAFETY REPORT:**

City-wide water quality reports indicate that drinking water tested in central locations is **SAFE**.

### **PATIENT INTERVIEWS:**

Interviews were conducted with five patients at Central Hospital exhibiting symptoms: Jose, Lisa, Mia, Ken, and Natasha. See attached transcripts.

### **OBJECTIVE:**

Identify the source of infection in order to prevent further spread of the outbreak. Work quickly as infection is spreading quickly.

### **METHODS:**

1. Read each of the attached interview transcripts.
2. Look for details of their activities.
3. On the PHI Data Sheet, list the key activities in which each of the people participated. Are there any activities that each of the people share?
4. From the data you collected, provide your best analysis on the PHI Final Analysis Sheet as to where the infection may have spread or had its origin.

# PHI:

PUBLIC HEALTH INVESTIGATOR

## ATTACHMENT: INTERVIEW TRANSCRIPTS

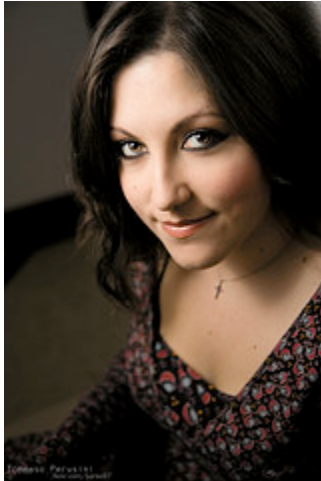
**Person #1 (Jose, Male, 34 years old)**



<http://www.flickr.com/photos/dsevilla/350577393/>

*During the weekend, I went to a concert in the park. I had food from the concession stand. My sister brought some fresh fruit back from a trip to Mexico and we had it on Sunday. My family went to Bill's restaurant on Tuesday for dinner. I had an apple from work, they were giving them out for free. I always carry my water bottle to work and use it each day, but I thought I had washed it out well enough.*

**Person #2 (Lisa, Female 17 years old)**



<http://www.flickr.com/photos/korso87/2351851085/>

*I go to the local high school and I drink from the fountain there. My family eats at Bill's Restaurant – usually once a week on Saturday. I was at a concert at the local park over the weekend. They were selling food from a concession stand and we ate there as well. I went swimming at the city pool on Sunday and we had take-out food with friends that night from an Asian restaurant in my neighborhood.*

**Person #3 (Mia, Female 27 years old)**



<http://www.flickr.com/photos/muriel215/3809574161/>

*I was working out of town last week and ate most of my meals in local restaurants in that city. I came home on Saturday and we went to the concert in the park and had a meal from the stand. They were selling hotdogs, burgers and stuff. It was hot on Sunday, so we went swimming at the pool. I went for a long bike ride on Sunday afternoon. On the ride home, I stopped to get an ice cream from a little store across town.*

# PHI:

PUBLIC HEALTH INVESTIGATOR

## ATTACHMENT: INTERVIEW TRANSCRIPTS (page 2)

### Person #4 (Ken, Male 18 years old)



<http://www.flickr.com/photos/tinker-tailor/4434187230/>

*My mom cooked a big meal on Friday and we had friends over at the house. They brought some food from a local grocer that grows their own vegetables. We went to the beach on Saturday – it was hot and I wanted to go swimming. We had fried clams at the beach – we got them from the clamshack that sells food near the parking lot. My family and I saw a concert over the weekend, the city set it up for free in the park. We could just go there. On Sunday, my parents took me to see my grandmother, who was cooking her lasagna. Its really great, but it was kind of hot for a big meal. I started to feel sick that night.*

### Person #5 (Natasha, Female 52 years old)



<http://www.flickr.com/photos/ariaphotography/4694709030/>

*Our family had a meal together on Friday and we had friends over at the house. Later in the weekend, we went to the circus and then to a concert hosted by the city. Sunday, I was home all day and I was eating the normal food that we have around the house. I always carry a water bottle with me and I fill it at water fountains, but it has never made me sick before.*

**DATA ANALYSIS SHEET**

In the table below, organize the activities of the five people and try to find common activities that might give you a clue as to where they might have picked up the bacterial infection.

Person	Site #1	Site #2	Site #3	Site #4	Site #5
1 Jose					
2 Lisa					
3 Mia					
4 Ken					
5 Natasha					



**FINAL ANALYSIS**

1. Where do you think the source of the bacterial infection lies?
  
  
  
  
  
  
  
  
  
  
2. What were the most important common clues to the source of the infection?