Sample Letters to the Mayor

The following letters to the mayor were composed by students that participated in River City during the 2006-07 academic year. They are presented here for teaching purposes and should not be considered exemplars. Each letter has both strengths and misconceptions.

As you read the following letters, please think about how you would evaluate the learning that has (and has not) taken place. For each letter, consider the following questions:

1. Does it show understanding of the scientific method?
2. Does the student demonstrate that he or she constructed meaning from his or her data and observations?
3. Does he or she understand how his or her data fits into the bigger picture?
4. Based on your knowledge of sixth, seventh, and eighth graders, where do you think this student’s understanding ranks?
June 6, 2007

Dear Mayor,

My team investigated a very serious problem in your city. We worked hard until we found it. There were many possibilities getting your city sick but we found the one causing major problem. The problem is that since you put an efficient pipe into the river, the pipe emptied the waste of the wealthy people into the river. As the river continued down stream the waste grew EColi. I found out that the EColi growing on the waste was what got people sick, but you ask, how could they get sick when they live away from the river. There are two ways this could have had happened. Number one, they could take the dirty water from the river *driven by thirst* and drink it. Thus, they would get sick from the EColi entering their system and infecting them. Number two, mosquitoes could have drunk the dirty water for a simple drink, but picked up the EColi virus. Then they would transfer it to the River City residents, and thus infecting them with a horrible disease.

When we entered River City, we had no clue what was going on, but wanted to help. We talked to the residents and found out people were sick. However we did not know what was causing them to get sick, or we had a faint idea. We were in River City for many months. We then experienced summer, spring, fall and winter in River City to help us form a hypothesis of why the people of River City were getting sick. As the months went on, we had more and more tools to help us make sure our hypothesis was correct. My team then formed a hypothesis. We had many ideas of why people were getting sick, but chose the one we thought was correct. This hypothesis was that the efficient pipe was getting everyone sick.

For finding out that this was the problem we had to do many tests. Among these were the water tests. My team took many water samples from the river the efficient pipe affected. As we traveled down the river there was more and more EColi gathering. That's when we knew that EColi was the disease that was making people sick. We talked to many people, like to people who live in the Tenements and in the Middle Class homes. We found out that most of the people who lived in the Tenements were the only ones getting sick. We checked the Hospital Admissions chart to see if we were correct. We were.
We took many samples in the Control World, then went into the Experimental World with our changed variable *Efficient Pipe*. When we got to the Experimental World, not as many people got sick. Less EColi was down by the Tenements. None were where the river started. If people got sick they weren’t as sick as before. We found out that we chose a good variable to change.

Our team really wanted to help our city mayor, turns out that we did help. Our team worked really hard helping you mayor. We worked almost everyday till we found the answer. This was an educational experience and a fun one. We found the problem, so when you’re reading this, do not thank us, we will thank you.

Sincerely,
Dear Mayor,

Today is June 7th of 2007 and River City has been a pleasure to investigate. My days of being a scientist may be over but I will never forget my chance of being one. Threw my days in River City I learned and discovered lots of things and in this letter I will tell you about them.

It all started out when people in River City were getting sick and I as a scientist had to figure out why. To start out this mystery we started gathering information and charting down clues and information. The third part of our investigating was to talk to River City residents to see what they had to say about this. Most of them mentioned something about the weather changing so that's when we wanted to investigate water. We noticed that the water was very gross and in the water it contained crates, bottles, dead fish, and bugs. That when we came across a tool called bug sampler and that's what we did. There were insects in the water called mosquitoes. The insects would some how bite any person who came near and that's why people were getting sick. Still the big question is how in the world are the mosquitoes getting them sick?

Next Page
So after more investigating we came along another tool called water samples so that's what we did. After taking water samples at many different places (bog, waterfall, dump, etc.) we discovered a bacteria called ecoli. So after putting everything together it all made sense. The water was filled with nasty bacteria called ecoli which the mosquitoes caught so everytime a person would come near they would get bit so then the bacteria would get into the human body making them get sick.

So for future reference, Mayor don't try moving the tenements it doesn't work and do us all a favor try to perfect the water.

Sincerely your friend
Wednesday, June 6, 2007

Dear Mayor,

The problem my team investigated was to find out why all the people were getting sick in River City. We have been investigating for about 3 weeks now, and we just found out the problem last week.

Our hypothesis was that if we drain the bog, then the people will get better, because the mosquitoes’ will leave. They will leave because they will have no place to live. The mosquitoes’ weren’t the only things that left when we drained the bog, the E. coli went down a lot.

The procedures we went through were: take and record a mosquito sample, drain the bog, talk to the people at the tenements, study our results of the drained bog, take more mosquito samples, and draw our conclusion.

Our teams results were the mosquitoes’ left, and the number of E. coli went down. It went from 35 to 2 E. coli. The town was much happier and less people were getting sick! When ever we talked to somebody in River City, they said that they had not too many complaints because of the people who drained the bog.

This was a fun experience, and I am glad we got to do this!

Sincerely
June 6, 2007

Dear Mayor Bowman,

Thank you for listening to my teammates and I about the citizens of River City and why they were getting sick. We have noticed that a lot of people in River City are very ill; they have stomach aches and coughs. We thought that the sickness was because of the water being dirty and contaminated with E. coli.

My group and I came up with a hypothesis that we believed would work. This was our hypothesis: If we clean the water around the dump, then people won’t get sick and the people that already are sick will get better, because the water the citizens are drinking will not be contaminated.

Our procedure was to gather data about the water and the people who were sick. Then we would clean the dump and the water around it, so people wouldn’t be drinking the dirty water. Then we gathered data again to see if there were any differences. We didn’t find any differences it all looked the same.

Then after the dump was clean it looked clean but there were still tons of E. coli bacteria in the water, and there were a lot of mosquitoes in the bug catcher. People who were previously sick were still sick and didn’t seem to be getting any better. We now think that the bog was the problem because cleaning the dump didn’t work.

Sincerely
Dear Mayor,

The problem my team choose is the wells. We hear that people are getting sick from the ecoli and anthrax in the water. My team and me will find out why people are getting sick and try to help with it.

We chose this problem because the people at the hospital said that people are getting sick from the water supply. We found samples of water that had a lot of ecoli and anthrax in it. Another reason is, the admission chart said a lot of people got sick from the water.

Our hypothesis is that if we take fix the old ones, and put in new ones, people won't get sick as much. Because the wells are new they might prevent e. and a. from getting in the water. Or reduce the amount of e. and a. from getting in.

We'll take samples on the wells in the control world. Then take samples in the experimental world. Then we'll compare the two worlds to make a graph; the graphs show water samples in ex. World and control world.
The results were great! At first there was 95 people sick. Then when we put the new wells in, it dropped down to 68 people sick. Even though we could have done better, I think it work pretty well. Now that the city has new wells, less people will be getting sick.

My team now knows 1 reason why people are getting sick, and I told you all about it! I hope this information helps you with you river city problem

Your friend,
Dear mayor,
The people in River City, mostly in near the bog, in the tenements, are getting diseased. I believe that the bugs in the river are causing the problem.

Kids in the tenements are getting sick with stomachaches, fevers, bug bites, and coughs. Erica, a girl in tenement two, says that she and other kids in her neighborhood have fevers. I think this is because the bugs are feeding on the dead fish, and now the bugs are caring disease.

My hypothesis is if we drain the bog, then the bugs will go away, because the bugs won’t have any thing to feed on. With the bog drained, people will be able to go near the bog without much of a chance of getting bitten.

When I went into the control world, I first talked to residents, mostly near the bog, to get their point of view. I also took some water and bug samples. Once I did that, I drained the bog. In the experimental world, I talked to the same residents and took samples from the bog.

Both the water and bug population have decreased. Now, there are less new cases, but people are still sick. I now believe that because the bog and the dump water intersect, the dump is also causing a problem.

In conclusion, my hypothesis didn’t work as much as I originally thought it would. I now think the problem is the dump because the fish are dieing from eating trash, and the bugs are feeding on the dead fish and spreading diseases.

Sincerely,
Hello mayor Bowman,

This is my letter to you on what my group did in River City. First off, I had a lot of fun in River City. It was great running around, talking to people, flying and getting information. Speaking of information, my group wanted to know why people were getting sick. We wanted to know if mosquitoes were causing/carrying any kind of disease. So we went out and asked residents what they knew and they gave all sorts of info.

We chose to do this problem because a lot of people, in July, were talking about the massive bug population by the bog. We went over by the bog and counted up to about 45. We talked to residents that were living around by the tenements. So then we made a hypothesis (an educated guess).

Our hypothesis was, if we drain the bog, then most of the bugs would be gone, because they will have nothing to feed on. We thought that this was a right guess because there are dead fish by the bog and tenements. There was also a lot of Ecoli in there to. So we also think that the fish could have eaten some Ecoli, then the fish died, after that some of the bugs could have fed on them, and then bit a person who is sick now.

We made a 10-step procedure. First we drained the bog, then we made different observations, after that we took 5 water samples at the bog to see if there was a massive Ecoli population, and there was. Then we checked the admission chart at the hospital to see if there were any more patients that came in since the last time we logged in. After that we went to talk to residents and checked the health meter by the bog and tenements. Next we recorded all the information in our online notebook. Then we went to check the bug population at the bog to see if the population went down, but unfortunately it did not. Our next step was to go and see if Erica Loskill was feeling any better after she ran through the bog and got stung by all those bugs. Then we came and talked to you Mrs. Mayor of River City. After we talked to you we wrote a letter about the data that we found.
These are my bar graphs that I made from the information I got about the bug-catcher sites, and the water-sampling sites.

My results were great. We found out the information we needed, then we made our graphs. Then we went into the experimental world. The first thing we did was go straight to the bog to see what had happened. We got what our team wanted. We wanted less bugs and not so many unhealthy people.

That is what happened in River City. It was great solving the problem of why all the River City residents were getting so sick. If I could do it again I would. So this is saying I had a really good time thx Mrs. Bowman.

Your Resident,
Dear Mayor Bowman,

My group and I have been doing a lot of research in River City lately. The essential question that my group has been working on is ‘what is making everyone in River City so sick?’ We’ve talked to many residents and taken water and bug samples, we have also used the health meter and the hospital admissions chart. I think the most informative tools were the admissions chart and water samples. The admissions chart has helped me to see who is getting sick, where they live, and what their symptoms are. From the water samples I can see how polluted and unhealthy the water is. Which brings me to think that the major cause is the polluted water by the tenements and dump.

As you know the problem my group chose to research was ‘is the water by the tenements and dump causing the illnesses?’ Again I would like to point out that my group has been doing research all around River City. Based on our findings we think that the most probable cause of all the illnesses is the polluted water. We have tested water samples everywhere and it seems to me that the most polluted water is at the bog, which of course is by the dump and tenements. Therefore it would only make sense that the cause of all the sicknesses is the water at the dump and tenements.
My groups' hypothesis was if we clean up the trash then the residents won’t get sick because the water won’t be polluted anymore. There are many reasons for why we wanted to clean up the trash. One was that we knew how much the residents enjoyed swimming in the bog during the summer and we didn’t want to take that pleasure from them. Another was that at the bog we found many E-coli and even some anthrax. Then when we talked to residents we found that the most people who got sick were playing in the bog during the summer. Therefore based on that evidence I think our hypothesis is correct.

Our procedure was a six-step process. First we decided to take water samples from April all the way through the control world. It was amazing how many E-coli we found! Then we took bug samples for all the same months, which again just blew us away! We checked the hospital admissions chart and talked to residents for all seasons, the amount of sick people was getting pretty close to one hundred. After which my group compared all our data. Then of course we cleaned up the trash in the bog. We then went through steps 1-4 in the experimental world.

Our results were amazing! Below is a graph of all the water samples taken from the bog, dump, and tenements river. We had to make sure we had data from the control world and experimental world. I think you will like what you see.
As you can see we have made a major improvement!

The bog, which used to have twenty-five E-coli, now is reduced to only nineteen. The dump made the biggest improvement though, it went from twenty-four E-coli to a mere thirteen! The tenements river didn’t have as much E-coli to begin with, but there is always room for improvement. What used to be thirteen E-coli now is only twelve! Then when I checked the hospital admissions chart I found that what used to be ninety-five people sick reduced to only seventy. I think my group made the right choice.
In conclusion I think our hypothesis was correct, and now your city is a lot healthier. Only I have to wonder what caused the water to be polluted in the first place? Maybe it was the open dump. I recommend that you do a monthly cleaning and keep checking the water samples to make sure the E-coli is always at a low number. Please consider my recommendation, and thank you for letting my group and I research in River City.

Sincerely,

[Signatures]