Best Teaching Practice:

This lesson is on bacteria and viruses. This chapter normally coincides with the reading of the book “Hot Zone”.

Read excerpts from “Hot Zone” and show old newspaper articles on the influenza pandemic of the 1918 to peak the students interests. Talk some on MERSA and staph infections.

Introduction of the lesson on bacteria and viruses:
Start the lesson on bacteria and viruses by using the textbook and internet based information.

Activities:

1. Gathering bacteria lab: This lab involves the students travelling throughout campus with a cotton swab, collecting bacteria from different areas. Before they go collect their bacteria, I talk about how to properly collect their bacteria and how to safely swab the petre dish, so not to contaminate other parts of the petre dish or themselves. When they return to the classroom each group has a petre dish that they will use to make their bacterial smear. Once they return from the swabbing mission and swab the petre dish, we discuss safe lab practices while working with petre dishes and unknown bacteria. After swabbing the petre dishes they are placed in an incubator. Once the petre dishes come back from the incubator, I reiterate the importance of safe lab practices, i.e. handling bacteria and washing hands after handling the petre dishes. Finally, we discuss the bacteria that is present in the dishes and how it is found everywhere.

2. The spread of Diseases thru Bodily Fluids Lab:
This lab involves all of the students receiving test tubes with NaOH in a very weak solution and one person having phenolphthalein. All liquids are clear so no one knows who is “infected”. The students will do two sets of exchanges. The first exchange will only be with two other students, then they record the results i.e. the number of infected vs number of students not infected. The second trial will be an exchange with either 3 or 4 students and then record the results. This lab shows how easily some diseases are spread from person to person.

I feel this lesson was very successful, because of the experiential nature of the lab. By having the kids actually gather bacteria in the first lab and transfer viruses in the second lab, they were able to grasp the concept of transmitted diseases and realized the need to take precautions as basic as washing their hands.