

Best Practices
from Denise Aikele

DREADED RED DISEASE

Materials: Sodium hydroxide and phenylphaline
A clean test tube for each student in the class
A disposable pipette for each student

Have students hypothesize the results. A possible hypothesis might be that everyone in the class will become infected.

Procedures:

1. Be emphatic that the students listen to the instructions carefully before you begin and follow them only when you tell them to.
2. Previous to class I prepare one test tube for each student that is ½ full of tap water. One test tube is filled ½ full with sodium hydroxide. This is the “blood borne pathogen”. I make a small black mark with a permanent marker on the bottom of the test, small enough that it cannot be detected by the students. It is placed randomly among the test tubes with water in it.
3. When I instruct them to, they are to make a “contact” with another student in the room. (I encourage them to move out of their “circle” of friends and mingle with others throughout the class.) they make the contact by each drawing a small amount of solution into their own pipette from their own tubes. They then place their solution into their partner’s tube, without contaminating their pipette with the other’s fluid from their test tube.
4. They then return to their desk and write down who their contact was with.
5. Upon your command they make another contact and write down that name. This continues until they have made five contacts each. I do not allow them to make the exchange until they have found their new contact and I know that everyone has a contact. If you don’t do this it fouls up the results because you have someone making more contacts than the others.
6. I then place a few drops of phenylphaline with a pipette into each person’s test tube. If they have come in contact with anyone that has come in contact with the “blood borne pathogen”, their test tube will turn pink.
7. While they are making their exchanges, I list all of the students on the board. We go back through and erase anyone who didn’t turn pink. The rest then give me the list of their contacts, in order. We then as a class determine who the original carrier of the blood borne pathogen was. You can make sure because of the black dot when the class thinks that they have figured it out. We then talk about how all of the test tubes looked the same and even the student with the “blood borne pathogen” didn’t know they were a carrier.

This is a very effective and fun way to teach universal precautions and the reality of how easy it is to pass on blood borne diseases.