Transmission of Disease

*Will* ***YOU*** *become infected?*

You are watching the news and see a story about a virus that is spreading throughout the local community. The virus spreads through the exchange of bodily fluids (for example, if someone sneezed in their hands then high fived you- you’d now have the virus!). You become increasingly worried about your risk of infection and have decided to go to the doctor’s office in order to get tested for the virus.

**Virus:** We must first decide what virus we would like to infect our community.   
Write down the virus chosen by the class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Before Testing:**

1. You need to obtain your body fluids. In order to do this, I will come around and give you one

cup filled with distilled water. This will represent your bodily fluids. However, **one** of you will be given a cup that contains a few drops of Sodium Hydroxide. This represents the virus and so you will already be infected with the disease and have the potential to infect those people you swap bodily fluids with. **You will not know if you already have the disease or not!**

2. Next, you will need to swap bodily fluids with **three** people in your community.

A. Choose a partner, and give them a high five!

B. One of you needs to pour your liquid into the other person’s cup.

C. Now your fluids have mixed.

D. Pour half of the liquid back into the empty cup. You should both now have an equal amount.

E. Record your partner’s name in the following data table.

F. You need to do this **THREE** times **ONLY**!

|  |  |
| --- | --- |
| Trial Number | Partner Name |
| 1 |  |
| 2 |  |
| 3 |  |

**Make a Guess**

4. How many people do you think will become infected by the end of the lab? Explain your reasoning.  
*Remember, only* ***one*** *person will be infected with the virus in the beginning*. \_\_\_\_\_\_\_\_\_\_\_\_

**Time to Get Tested**

5. Now that you have swapped bodily fluids with others, you are at-risk for an infection. You

have now decided to go to the doctor.

A. One at a time, make a doctor’s visit. You must find me, Doctor Keener, in order to be tested.

B. I will place a few drops of Phenolthaline indicator into your cup. If pink, you tested positive (+) for  
 the virus. **You must then report to** **Quarantine**. If clear, you tested negative (-) for the virus.   
 Write your test results below:

Test results: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

C. Now, record your name and results on the class data sheet.

**Let’s Track the Virus**

1. Looking at the class data, who all became sick?

2. Looking at the class data, who was originally infected with the virus? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Summary Questions (Answer in complete sentences)**

1. In the end, how many people were infected with the virus?
2. What percentage of the population does this represent?
3. Why would it be important to find out where/who the virus came from?
4. What preventative measures could have been taken to avoid exposure to the virus?

5. Draw a bar chart that represents the percentage of people that were exposed/unexposed in

the beginning and by the end of the lab (so you should have four bars total). **Label your axes.**