

Engage: It's nice to share

PROCESS AND PROCEDURES

1. You'll be given a numbered test tube of clear liquid. Record the number of the test tube in your lab notebook.
2. Create the following table in your notebook:

Interaction #	Name of person	test tube #	positive test? (y/n)

3. Pair up with another student in the class. You and the other student will each fill your pipette from your own test tube. Empty the contents of your pipette into their tube and vice versa. Record their name and test tube # in the first row. Return to your seats.
4. Repeat this process three more times finding a new partner each time.
5. The teacher will come around to each test tube and "test" whether or not you have the virus. Record whether or not you test positive. If you tested positive, let the other four people that you interacted with know that you tested positive. Record in your own lab notebook which of the people you interacted with got positive test results.
6. As a class you will construct a tree to try and determine which student was the initial source of the disease.

ANALYSIS

1. Were you able to determine a "patient zero" (initial case) of infection for the disease in the classroom? If so, who was patient zero?
2. If the number of people infected doubles after each "round", how many people should have had the disease in your class after four rounds? How many did have the disease after four rounds? Explain why the numbers could be different.
3. If the activity had continued for eight rounds, how many people could potentially catch the disease? After sixteen rounds?
4. What are some ways you could have slowed down the spread of the disease if it had been airborne (spread by coughs and sneezes)? How could you slow down transmission of a sexually transmitted disease? How about a disease spread by direct contact with people or surfaces (shaking hands, touching door knobs, etc.)?