

Disease Transmission Lab

Introduction

You can contract infectious diseases in any of five different ways: through person-to person contact, air, food, water, and animal bites. Diseases transferred from person to person are considered contagious, or communicable. People directly transmit some diseases by kissing, shaking hands, touching open wounds or sores, or having sexual contact.

During this lab activity we will demonstrate how a communicable disease could spread through students in this classroom. In this activity all the students but one will be given a small glass half-filled with water. One student will be given a glass half-filled with a .5M NaOH solution. Students will then choose a classmate and carefully pour the liquid from their glass into that of their classmate, who will then pour half of it back. This will then be repeated with three other students.

After the exchange of liquids all glasses will be given a drop of phenolphthalein. This chemical reacts with a basic solution and changes the solution a bright pink color. The glasses that change color, have been contaminated by the one original infect student.

Objectives:

To demonstrate how rapidly a contagious disease could spread through a human population.
To trace the pattern of infection through a class population

Materials and Equipment

36 small plastic glasses, water, .5M NaOH solution, phenolphthalein, dropper

Procedure:

1. Mark the number of your liquid sample on your lab sheet.
2. Randomly select 5 students to exchange liquid samples with, pouring your liquid into their glass with them pouring half back. Mark their name and sample number down on your lab sheet.
3. Repeat this procedure with other students until you have done 5 liquid exchanges. Mark the names and number of all students (in the order that you exchange) on table 41-1.
4. Report to the instructor and have a drop of phenolphthalein placed in your glass.
5. Check your lab sheet either infected or not infected
6. Gather class data and record on table 41-2
7. Answer questions and complete graph.

Data:

Glass sample number: _____

Infected _____ Not Infected _____

Table 41-1:

Student Liquid exchange names:

Glass Sample #

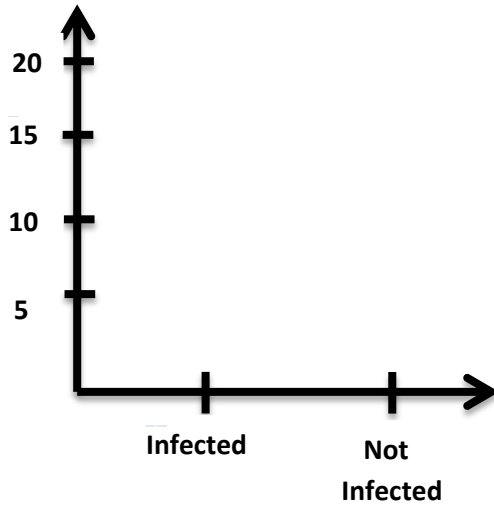
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Table 41-2:

Number of students infected _____

Number of students not infected _____

Graph:



Questions:

1. Name three communicable disease
2. If this disease were fatal 50% of the time, how many students would have died/
3. What is a pathogen? Give an example of three different types of pathogens?
4. What is meant by the term immunity?