

How does an infectious disease spread?

The following activity will simulate the spread of an infectious disease that require the direct physical contact to be transmitted, such as HIV, pink-eye, herpes etc.

Directions

- 1 Obtain a vial containing a clear liquid and a dropper from your teacher. The vial represents your body and the liquid your bodily fluids. One of you has a vial that has been “infected” with a infectious disease.
- 2 Walk around the room and chose another student to interact with.
During your interaction, each of you will fill up your droppers with liquid from your own vials and let 5 drops of liquid fall into your partner’s vial. **MAKE SURE NOT TO DIP YOUR DROPPER INTO YOUR PARTNER’S VIAL!**
- 3 Empty any remaining liquid in your dropper back into your vial.
- 4 Find another student and repeat the exchange of liquids as described in step 2.
- 5 After you finished your second interaction, return to your seat.
- 6 Estimate how many people you think will be infected. _____
- 7 To find out who is infected, add 1-2 drops of the “infection indicator” (phenolphthalein) to your vial. If you interacted with the original infected person or someone else after they got infected, the liquid in your vial will turn bright pink.
- 8 How many people were infected? _____
- 9 You will do another round of interactions, again with only one student with an “infected” vial. Obtain a new vial and dropper from your teacher.
This time, interact with **three** different students.
- 10 Estimate how many students will be infected after three interactions. _____
11. Test your vial again to find out how many people were actually infected. _____
12. Graph how the number of infected students increased with the number of interactions.
In order to do so, think about the following questions:
How many students were infected before you started the first round of interactions? _____
How many students were infected after just one round of interactions? _____
Use the graph to predict how many students would become infected after four interactions. _____
How about after 5 interactions? _____

