

Disease Transmission and Outbreak Activity Packet

INSTRUCTIONS

- 1) Pick up and put on a pair of gloves.
- 2) Pick up a cup containing a clear liquid, a behavior card, and a number sticker. The cup represents your (or your animal's) body and the liquid your bodily fluids. One or two of you has a cup that has been "infected" with an infectious disease.
- 3) Put on your numbered sticker and review your behavior card.
- 4) The instructor will announce when to start the activity. You will swap fluids as outlined on your behavior card.
 - a. To exchange fluids, one person will dump all of the contents of their cup into the other person's cup.
 - b. Return half of the solution back to the empty cup.
 - c. Record the number of the person you exchanged with on the table on the next page of this packet.
- 5) Repeat step 3 as many times as specified on your behavior card. Each swap should be with someone you haven't already swapped with. You should only swap as many times as your behavior card indicates.
- 6) When you have finished swapping, return to your seat with your cup. Remember to be careful and not spill any liquid.
- 7) The instructor will come around and add "testing" drops to your cup.
 - a. A color change to pink (either bright or faint) indicates a positive result – you are considered "infected." No color change is "uninfected."
- 8) **Record your results:** _____
- 9) Return your cup to the instructor to be disposed of.

FLUID SWAP RECORD

Record the participants' names/numbers you exchanged fluids with.

Exchange #	Partner's Name/Number
1	
2	
3	

OUTBREAK INVESTIGATION & ADDITIONAL DISCUSSION

1. Work with the group to fill out following table and discuss any apparent risk factors.

	Infected Yes	Infected No	Total
Exposure <i>Participated in county fair only</i>			
Exposure <i>Participated in county and state fair only</i>			
Exposure <i>Participated in multiple open shows, county fair, and state fair</i>			
Total			

2. Did any of the exposures lead to greater risk of becoming infected?

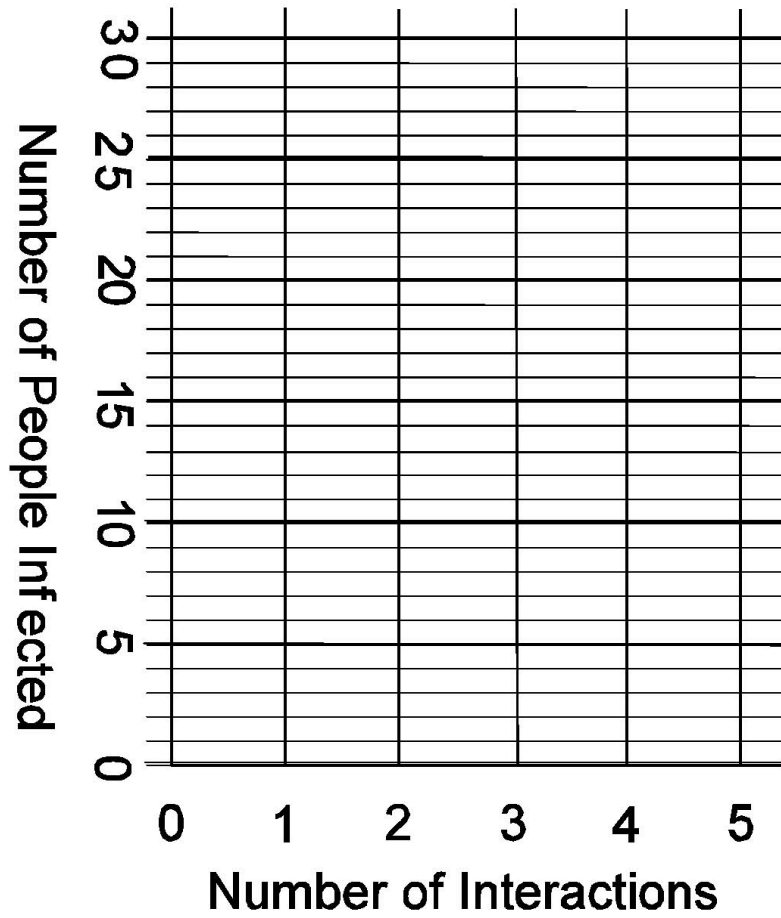
3. How does this translate to the increased risk of infection for you and your animals based upon the shows you attend and number of animals commingled in real life?

How did the number of people infected increase with each round of interactions?

4. Assuming one person was initially infected, fill out the following table and graph

Number of interactions	Previously Infected	Newly Infected	Total # of Infections
0	Student #1	0	1
1	Student #1	Student #2	2
2			
3			
4			
5			

5.



6. What do you notice about the rate of increase in the number of infections? Does the graph show linear or exponential growth?

7. If we did this activity long enough, would everyone become infected? Why or why not?

8. How can we determine who was the original source of infection?

9. How would this investigation be different if you hadn't kept notes about whom you swapped fluids with and in what order?

- Do you think you would have remembered clearly after the activity was over? How well do you think you'd remember tomorrow or in a week from now? A month?

10. What preventative measures could have been taken to avoid exposure to the disease?

11. How would an airborne disease spread differently? Why?

Infection Tree

Instructions: Complete this "tree" to trace back the path of transmission of the disease. Write your cup number and the cup numbers of the people that you exchanged fluids with. Depending on your behavior card, you may have swapped with less than six people. Find out which of your partners had a positive test (were infected). Highlight their cup numbers. Talk to each of the people you swapped with and find out if they had interactions with infected people before they interacted with you. Circle the cup number of the partner that infected you. Draw a box around the people that you infected (directly or indirectly).

