

The Fatal Flu

The purpose of this activity is for you to use the information presented in the results and the references to determine the cause of an outbreak. Think about the information, and answer these questions as you go through case.

Part 1: The Disease

1--What types of pathogens could be responsible for this seemingly fatal flu? (1 pt)

Part 2: The Gram Stain Results

2a-- Of the types of pathogens listed above, which ones COULD you see in a Gram stain? What would they look like? (1 pt)

2b-- Which ones DID you see? What pathogens can you rule out from the Gram stain results? (1 pt)

NOTE: it may help to fill in the test results below.

	Patient 1	Patient 2	Patient 3	Patient 4
Sputum sample				

Part 3: The Direct Fluorescent Antibody Results

3a-- The direct fluorescent antibody assay is useful because it allows one to look for the presence of specific pathogens. What makes this technique so specific? (1 pt)

3b--What do the DFA results indicate about what might be causing this disease? (1 pt)

NOTE: it may help to fill in the test results below.

	Human RSV	Rhinovirus	Influenza	Human Adenovirus
Patient 1				
Patient 2				
Patient 3				
Patient 4				

Part 4: The Electron Microscopy Results

4a--What is one advantage of using electron microscopy over the DFA? What is one disadvantage? (1 pt)

4b-- What do the EM results indicate about what might be causing this disease? (1 pt)

NOTE: it may help to fill in the test results below.

	Cell line A	Cell line B	Cell line C
Patient 1			
Patient 2			
Patient 3			
Patient 4			

Part 5: Your Conclusion

5a) What is causing the Fatal Flu? **Explicitly state what you think is causing the outbreak and present evidence that supports your hypothesis.**

Your argument must refer to your results and include information from the references as needed. (2 pts)

5b) There are a few skeptics who have read your report and want more tests to confirm the findings. **Describe one more diagnostic test** that you would you perform on the sputum samples to confirm your suspicions about the pathogen. NOTE: Assume that you cannot purposefully infect humans. (1 pt)