

Name \_\_\_\_\_ Date \_\_\_\_\_



## Flu Transmission

STEM Sims


### Lesson 2: Does Hand Washing Affect the Spread of Influenza?

One of the major guidelines for reducing the spread of diseases is to wash your hands with soap and water for 20 seconds. The flu virus is highly contagious. Can hand washing reduce the number of infections due to influenza? Lather up and start your investigation.

### Doing the Science

1. Start the Flu Transmission Simulation.




2. Select the "None"  button under the Factor menu on the left-bottom of the screen.


**Q.A.** Predict how the number of students infected with influenza will change over the six-week period. Provide a reason to support your prediction.

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3. Select the "Run"  button at the bottom center of the screen.

4. Note the Progress  bar, which shows time running for a six-week period.

5. Select the "1" icon on the Progress bar.

6. Count and record in Table 1 below the number of infected students at the end of the first week of the flu outbreak.

**Table 1. "None" Factor Data**

Week	Infected	Uninfected	Week	Infected	Uninfected
1			4		
2			5		
3			6		

7. Select the "2" icon on the Progress bar.
8. Count and record in Table 1 the number of infected students at the end of the second week of the flu outbreak.
9. Repeat this process until you have counted and recorded data for all six weeks.

**Q.B.** Construct an explanation as to why the number of students infected with influenza changed over the six-week period.

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**Q.C.** Predict whether hand washing will be more or less effective than no hand washing in preventing the spread of influenza. Provide a reason to support your answer.

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10. Select the "Hand Washing"  button under the Factor menu on the left-bottom of the screen.

11. Repeat steps 3 - 9 only enter your data in Table 2.

Table 2. "Hand Washing" Factor Data

Week	Infected	Uninfected	Week	Infected	Uninfected
1			4		
2			5		
3			6		

### What Do You Understand?

1. As time progressed, how did the number of students who were infected by the flu change when the "None" factor was selected?

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2. Is the spread of flu when the "None" factor was selected more like linear growth or exponential growth? Provide evidence to support your response.

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3. As time progressed, how did the number of students who were infected by the flu change when the "Hand Washing" factor was selected?

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4. Is the spread of flu when the Hand Washing factor was selected more like linear growth or exponential growth? Please support your response with evidence.

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5. How did hand washing affect the spread of the flu?

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6. Coronavirus is another virus that spreads in a similar way as the flu. Why do experts say people should wash their hands with soap and warm water for 20 seconds to avoid a coronavirus infection?

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