The Spread of Infectious Disease and Social Distancing Simulation Investigation

Follow the instructions in this tutorial, discuss the italicized prompts with your peers, then type your response to the italicized prompts in a copy of this Google Doc. Make sure to title your new Doc with your name.

1. Download and open the NetLogo file, Spread of Infectious Disease with Social Distancing.nlogo from the NetLogo Google Drive.
2. Make sure the **total-population** slider is set to 60 and the **social-distancing-percentage** slider is set to 0. *How many people will be created? How many people will be practicing social distancing?*
3. Click the **setup** button. *What do the different colors represent? How many infected individuals are there?*
4. Now, click the **go** button. *What does violet represent? Describe what happened to the population of people in terms of the spread of the disease. What does the curve in the plot represent? Approximately what percentage of the people were infected?*
5. Hover over the peak of the curve in your plot. *What is the approximate maximum of this curve? Describe in terms of the spread of the disease why this number is critical.*
6. Click **setup** and **go** again. *Is your second curve identical to your original curve? Why do you think this is the case?*
7. Hover over the peak in your second curve. *Record the approximate maximum.*
8. Collect all recorded maximums from your peers, including your own two. *Record the average maximum value here.*
9. Click the **clear** button.
10. Increase the **social-distancing-percentage** slider to 30. *How many people do you expect will practice social distancing? What do you expect will happen to the maximum value of the curve?*
11. Click the **setup** button. *What color are people who are practicing social distancing?*
12. Click the **go** button. *How is social distancing portrayed in this simulation? How does this reflect social distancing in the real world?*
13. Hover over the peak of the curve. *Record the approximate maximum value. Does this confirm your hypothesis from Q10?*
14. Click **setup** and **go** again. Hover over the peak in your second curve. *Record the approximate maximum.*
15. Collect all recorded maximums from your peers for their 30% social distancing curves, including your own two. *Record the average maximum value here.*
16. Repeat steps 10-15 for the **social-distancing-percentage** slider set to 60 then 90.
17. Reflection.
    1. *Compare all averages for the different percentages of social distancing. What do you notice? Does this make sense? Why?*
    2. *What are the limitations of this model? How could the simulation be altered to make the outcomes more realistic?*
    3. *How could you use this simulation to teach someone about the importance of social distancing?*