

Student Activity Sheet

Student Name _____

1. In your own words, explain why a virus is considered non-living.
2. Are there similarities between viruses and living organisms? If so, what are they?
3. Using the Interactive Simulation Key, explain the differences between a susceptible person, sick person, and recovered person.
4. Using the Interactive Simulation Key, define the following terms:

Initial Population:

Sick Rate:

Recovery Rate:

Days to Recovery:

Susceptibility Rate:

Days to Susceptibility:
5. After working with the virus simulation, explain what is occurring when a sick person is exposed to a population.
6. Relate this simulation to the COVID-19 pandemic. Explain how this simulation can help show the effects of quarantining to prevent the spread of the virus.

7. After using the virus simulation, can someone become reinfected with a virus? If so, why?

For the following questions, set the population to 100 and run the simulation for 50 days.

8. Think about a sickness like Norovirus (stomach virus) that is very contagious, but easily recovered from.
 - a. What would you set the parameters to in this simulation to model this illness?
 - b. Before you run the model, record your prediction of what will happen to the population.
 - c. Test your prediction using the simulation. Record your results. Were the results what you expected? Explain.

8. Now think about an illness that does not have a cure such as Human Immunodeficiency Virus (HIV) and model this disease in the simulation.

- a. What would you set the parameters to in this simulation to model this illness?
- b. Before you run the model, record your prediction of what will happen to the population.
- c. Test your prediction using the simulation. Record your results. Were the results what you expected? Explain.