

## Pandemics: How are Viruses Spread?

## Activity 1, K-5

Right now students across the United States are being asked to stay home from school in order to self-isolate because of the COVID-19 virus. This means that people are supposed to stay inside of their home with their family and avoid physical contact with other people using a rule of staying 6 feet apart. If students were in school then the virus would spread more easily because students would be touching many of the same things. Think and respond to the following questions:

- (1) What things do you typically touch in the classroom?
- (2) Who else touches these things? How come?
- (3) When are you within 6 feet of another person in the classroom? Why?
- (4) What is the most commonly touched object in the class? How could a virus spread through that object?

Say that everyone in the class touches something in common on a daily basis. Then the virus would spread quickly! Use the interactive and set the population size to 25 to represent students in a classroom. If the simulation starts with one infected person in the classroom and all other parameters remain as is, answer the following questions:

- (5) How does the number of infected and contagious people change from day 1 to day 2?
- (6) How does the number of infected people change after 5 days?
- (7) What do you notice about the results and the graph after more than 20 days have passed?

**Solution Guide**

(1) What things do you typically touch in the classroom?

**Students might list items like their desk, chair, an eraser, stapler, books, etc.**

(2) Who else touches these things? How come?

**Students should make connections between the items listed above and why others might touch them. For example, many students might touch a stapler before turning in an assignment.**

(3) When are you within 6 feet of another person in the classroom? Why?

**Students might list things like when they are sitting at their desks, when they are in line, when they are sitting at the rug in the classroom, etc.**

(4) What is the most commonly touched object in the class? How could a virus spread through that object?

**Students should make connections between the object and the 6-foot rule, germs on objects, and how germs are spread.**

(5) How does the number of infected and contagious people change from day 1 to day 2?

**One person is contagious from day 1 to day 2.**

(6) How does the number of infected people change after 5 days?

**After 5 days, there are 2 people that are infected and 4 people that are contagious.**

(7) What do you notice about the results and the graph after more than 20 days have passed?

**After 20 days, over half of the class is no longer contagious but that also means that they have all been infected with the virus.**