Community Immunity Activity

LESSON AND ACTIVITY | Community Immunity

GRADE LEVEL | 4th and 5th grade

ESTIMATED TIME | 30-45 minutes

OBJECTIVE | Teach students how a community with higher vaccination rates can slow or stop the spread of disease, as well as protect people who cannot or have not been immunized.

MATERIALS | Class roster for each student. Red (2), green (4-10) and blue (10-15) index cards or small pieces of paper. Envelopes.

LESSON

> A person can only get sick with an infectious disease by catching the disease from another person who is sick or recovering from it. Typically, once a person has been infected and then recovered from a disease, they can never get it again; this is called being immune. A person can also get immunity from an infectious disease by getting a vaccine against that disease.

> If enough people in a community, or a "herd," are immune to a disease, even people who are not would have no one to catch the disease from, and so are protected. This "herd immunity" is important for those who cannot get a vaccine such as someone who is severely allergic to vaccines, has a weak immune system or is too young to get vaccinated. Some people also choose not to get vaccinated.

> Those who are not vaccinated are at a much higher risk of getting a disease. The smaller the portion of unvaccinated and non-immune people is in a population, and the larger the portion of immune, vaccinated people, the more likely a community is to be able to resist outbreaks, and the less likely those that are not immune will stay healthy.

Here is a good diagram to help explain herd immunity

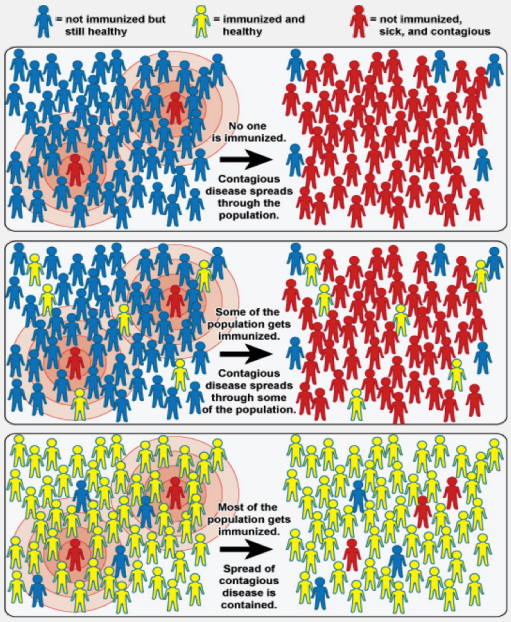

Image from: The National Institute of Allergy and Infectious Diseases (NIAID)

Community Immunity Activity Continued

ACTIVITY INSTRUCTIONS

Step 1

Hand out the colored cards or pieces of paper prior to class,

put in envelopes so nobody knows what color they have received. Give two students red items, to signify that they are infected. Give a few students green items, signifying that they are immune, or vaccinated. The rest of the students can receive blue items, meaning that they are healthy but not immune. Use this as a time to discuss that some people are not able to get vaccinated (allergic to vaccines, have a weak immune system, too young to get vaccinated) or prefer not to.

Step 2

Let the students mingle prior to taking their seats for class.

Ensure that each student has a roster (or some similar list of students in the class). Ask the students to mark the names of everyone they talked to during the mingling, and in what order. [This will work best if students do not know the topic before class.]

Step 3

After the students sit down, give the introductory materials,

and have the students open their envelopes and see what color they have. Identify who would have been infected based on who the students were in contact with while they mingled before taking their seats. [This might be done by depicting each student as a circle on a blackboard and diagramming transmission with arrows.]

Step 4

As the follow-up exercise, randomly redistribute a new set of envelopes

but with more green items and fewer blue items. [Note: It might be best to make sure the same two students get the red items so the index cases will be the same.] Ask students to use their same marked-up rosters. In other words, assume they had the same personal contacts and determine who would have become infected this time—when more people are vaccinated and fewer are susceptible. Ideally, in the second round, fewer people will become infected.