



Queen's University Indigenous Land-Based Learning STEM
Queen's University Biological Station

Communicable Disease: Making Connections to Invasive Species

1. Spreading of Disease Lab: Adapted from activity found here: https://rb.gy/ugl9z

For our bundle, it is suggested to discard Instructions #3 and #7, as the vaccinations are not important to the meaning of the activity, which is to relate it back to the spread of invasive species. Although there are biological vaccines and treatments for trees to prevent/treat Dutch elm, it can be skipped in the actual activity and just briefly discussed later on. The timing for Instructions #5 can be extended, and for Instructions #6 and #9, we would suggest having students be in a circle, rather than a line so that each student can see what is happening with the indicator. Last, we also suggest discarding Instruction #11, as some students would not like to be centered out. The teacher may also join in on the activity and act as the "infected" person.

- 2. After the activity is done, we suggest using these questions to reflect:
 - 1. What were your test results?
 - 2. If you tested positive, who do you think you caught the infection from and why do you think it was that person?
 - 3. If you tested negative, did anyone you exchanged with come up positive? If so, why did you not get an infection?
 - 4. If you or anyone you exchanged with did not test positive, how do you think you avoided infection?
 - 5. What real life behaviors could result in the spread of this pathogen?
 - 6. What real life behaviors would prevent the spread of this pathogen?
 - 7. What would happen if the number of exchanges in the classroom increased? Decreased?

After the communicable disease lab, students can begin to think about how understanding how quickly diseases can spread is important in knowing the impact of an invasive species.

Dutch elm disease, which spreads quickly, is caused by the invasive fungi Ophiostoma ulmi. For more information about Dutch elm disease, check out the Invasive Species Centre: https://rb.gy/t48i4