Grade 7

Interactions within ecosystems

Students learn about ecosystem interactions on a microscopic scale including components of the environment that support microbial life and how diverse microbes impact health.

Online BIOlab option: live virtual field trip via Teams, Meet or see how scientists test for microscopic organisms that can cause disease using agar plates to compare colony characteristics and microscopes to view to see microbe shape and structure.

Time required
1.5h + 30 min results follow up

The interactions within ecosystems cluster introduces concepts of complex relationships between organism populations and the physical conditions in their environment. Humans are affected not only by ecosystem interactions that we can see, but we are in fact an entire ecosystem of microbes whose diversity and balance contribute greatly to health and in some cases, disease. This activity investigates microbes in the environment using techniques to grow and see them. We explore health concepts of infectious disease and transmission as well as healthy microflora and ferments.

Specific learning outcomes addressed 7-1-01; 7-1-02; 7-1-03; 7-01-07 7-1-13; 7-1-14; 7-1-15

Time Required	Student Experience
Day 1	Swabbing
15 min	Introduction to the Research Centre and research interests, connect Research Centre labs to study of living microbes in the environment
15 min	Microscopic organisms in the environment that can affect health
15 min	Understanding the needs of living things and brainstorming locations in the lab where we might find microbes.
30 min	Swabbing locations based on student suggestions. Make predictions about amount or diversity of colony growth.
15min	Questions and wrap-up
Day 2	Results 2 or more days later – If live session isn't possible with scheduling we will send photos of the plates
15 min	Learn about diversity of colony characteristics used to differentiate bacteria and observe growth on plates
10 min	Observe some lab bacteria under the microscope, learn about size, shape, structural diversity in bacteria
5 min	Questions and wrap-up

times are approximate, and can be scaled to whatever time you have available!