

## Investigation Lichen

Lichens grow on rocks and tree trunks. A lichen is often thought of as a single living thing. However, it is actually made up of two or more different organisms. Lichen contains a fungus and one or more types of algae. The algae may be cyanobacteria, green algae, or both.

The organisms that make up lichen depend on each other for survival. They cannot live independently. The fungus absorbs nutrients and water that it shares with the algae. The algae make food through photosynthesis and share it with the fungus.

Together, the algae and the fungi provides everything they both need to survive. As such, lichen can be found in all types of environments, growing on tree, rocks, or bare ground. They can even survive in the Tundra where most plants cannot survive. In fact, lichen is a main staple for reindeer, also known as caribou.

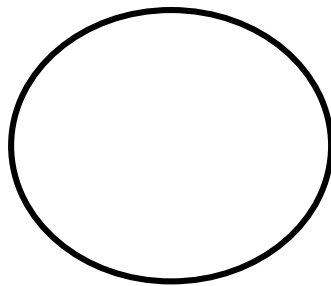
In this lab, you will examine a lichen under the dissecting microscope.

### Materials

- Lichen
- Dissecting Microscope
- Petri dish
- Tweezers

### Procedure

- Place a small piece of lichen in a petri dish.
- Put the petri dish on the stage of the dissection microscope
- Adjust the lighting and focus until you can see two distinct colors in the lichen.
- Ask for teacher assistance if you are having trouble focusing on the lichen.
- Draw and label the algae and the fungi. Use colored pencils to indicate the color



Lichen under Dissection Microscope

### Analysis

1. Under the microscope, some parts of the lichen are green. What makes up the green part of the lichen?  
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2. Under the microscope, some parts of the lichen are grey or white. What makes up the grey or white part of the lichen?  
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**Analysis**

- 1. When two different species form a close and permanent relationship, it is said to be a symbiotic relationship.: mutualism, parasitism, and commensalism.

Which type of relationship do you think exists in the lichen? \_\_\_\_\_

- 4. Explain how the above relationship works in the lichen and how it enables the lichen to survive in any type of environment:

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