Lichen Study Report – Introduction and Methods

Field Biology

This report is an individual assignment. It should be written in the PAST TENSE (because you will be completing this report after your project is complete). When you are done, e-mail your work to dan.bregar@corvallis.k12.or.us with the subject line "per *X your name* Lichen report".

Introduction:

This section of your report consists of a description of your question and background information about your project. You can use information from your lichen project proposal.

In one paragraph, explain your "What is the Relationship Between" question. Add some supporting details to clarify the purpose of your study.

In another paragraph, describe the factors that you chose and how one might influence the other.

Methods:

This section of your report will contain the step by step list for answering your WITRB question. The first step of instructions is how you will measure the factor that influences lichens and the second will be how you will perform the measurement you have chosen for the lichens

Make sure that your instructions are clear, detailed, and describe the actual steps you took to make your measurements.

Here is an example of what these first two sections of your final report should look like:

Lichen Study Final Report – Lichens, Tree Species

Introduction:

The question I asked for my study was " What is the relationship between the types of lichens and the tree species that they grow on?" After walking through the woods this weekend I wondered if certain lichens grew only on certain tree species. Through research I found that certain tree species have higher alkalinity than others. I was curious what kind of effect this had on the types of lichens so I decided to compare three tree species. The sugar maple, white alder and the garry oak tree.

The *pH* scale measures how acidic or basic a substance is and ranges from 0 to 14. The closer the measurement is to 0 the more acidic the bark is and the closer it is to 14 the more basic it is. I plan to measure the pH of all three species and compare this to the types of lichens present

There are certain lichen species that are sensitive to specific air quality parameters. For example, some species can survive with higher atmospheric nitrogen levels than others. I found that many species are affected by this and are unable to survive. I believe a similar correlation can be made with bark pH. My intent is to verify this correlation in one area near Crescent Valley High School in North Corvallis.

Methods:
Bark ph–

1. We scraped some bark from the tree into distilled water (pH 7.0) and let it soak.
2. After 24 hours, we took a measurement with a pH probe.
3. We Recorded our results in a table similar to the one below.

School Name	
Sample date	
Tree number	
Tree Species	
Latitude	
Longitude	
pH of Bark	

Lichen Sampling –

1. Using a 100 circle grid, we placed it on the tree at 1.5 meters from the base of the tree trunk.
2. We selected 3 mature trees of each species for your sample and marked each tree for later identification. At each selected tree, we tied a string around the trunk at a height of 1.5 meters from the ground.
3. We determined the Latitude and Longitude for each tree in our sample using a GPS
4. Using the 100-circle grid, we placed the transparent grid so that its lower edge touches the string. The center of the grid was lined-up with magnetic north (determined from a compass)
5. We counted each lichen that showed through each of the 100 small circles on the transparency and recorded the results on the chart below. The procedure was repeated for each tree.

Tree #	Amount
Crustose	
Foliose	
Fruticose	
Moss	
Bare Bark	
Other	

Note: Each column should add up to 100.