# Lichen Project Data Collection and Analysis
## *Field Ecology*

This document will summarize your findings from the lichen project you carried out at the Noyes property and here at CV's campus. This is an individual assignment. If you have no access to Google Classroom, please do your work in a Microsoft Word document and send it to dan.bregar@corvallis.k12.or.us with the subject line "per. *X your name* lichen project analysis".

Please include all of the following sections (with headings):

1.  **Question and Background Information**: In a brief paragraph, write your "What is the Relationship Between" question and add explanatory details. In a few additional paragraphs, summarize the information you learned about lichens through the Lichen Questions and Lichen Herbarium assignments.

2.  **Results**: Your results should include two neatly formatted data tables:
    -   Your raw data table that shows the percentage of all three lichen categories on each stick, along with the distance each stick was from Highland Drive.
    -   A summary data table that shows average percentage of each lichen category for distances grouped by near, intermediate, and far from Highland Drive.
    All your data tables should be neatly formatted and labeled and copied into your from your spreadsheet into your final document. Where appropriate, include some written information to clarify your data.

3.  **Analysis**: To the best of your ability, answer the question we were addressing with this project: What is the relationship between the amount of pollution-tolerant lichen on trees and their distance from Highland Drive. Your analysis should include all of the following parts:
    -   A scatterplot graph that compares the amount of pollution-tolerant lichen to the categorized distance from Highland Drive.
    -   A trend line and $R^2$ value for the graph.
    -   A paragraph that gives an overall answer to your question along with an indication of how your data supports that answer.
    -   An additional paragraph that relates the specific data you collected regarding *Lobaria* (lungwort) percentages to the overall ratio of pollution-tolerant lichen to the rest of the lichens we studied.

4.  **Reflection**: Discuss some of the possible sources of error for your project, along with an indication of possible next steps. In 2-3 paragraphs, make sure you answer these questions:
    -   What were some possible reasons that your data might be inaccurate?
    -   Even if your data IS accurate, is there a possibility that you have drawn the incorrect conclusion as to the answer to your question?
    -   **Why** do you think you found the relationships you saw? In other words, what are some possible scientific explanations for your results?