

Lichens and pollution

Follow-up resource

Well done for completing the fieldwork. You are now going to examine and analyse the data you collected, and use it to compare the environmental conditions at each site.

Read the instructions carefully and complete each task.

Task 1: Site descriptions

Write an introduction about each site. Describe its location (give the grid reference) and the type of areas it's in. Describe the land-use in that area. You could use any field sketches you drew or photos you took to support what you say (labelling /annotating them is always a good idea too!)

Task 2: Tally

You are going to count up the number of different species of...

- Lichens tolerant of polluted areas (P)
- Lichens tolerant of moderate pollution (M)
- Lichens tolerant of Slight pollution (S)
- Lichens of clean air (C)

Which you found at each site on the trunks and the twigs of the trees you surveyed. Write your results into the tables below.

Tally of lichens found of different levels of pollution tolerance at SITE A			
Pollution tolerance	Number of <u>different</u> species found on trunks surveyed	Number of <u>different</u> species found on twigs surveyed	Totals
P			
M			
S			
C			

Tally of lichens found of different levels of pollution tolerance at SITE B			
Pollution tolerance	Number of <u>different</u> species found on trunks surveyed	Number of <u>different</u> species found on twigs surveyed	Totals
P			
M			
S			
C			

Task 3: Graphical representation

You are going to draw graphs to show the information in the tally tables above. This will help you to visually compare the data for the two sites. Here's how...

1. Use the data in the totals column
2. Draw a simple graph, e.g. bar chart to show the total number of lichen species of each tolerance level found at each site.

Extension: Is there any difference between the lichens found on the trunk and twigs? The twigs are the youngest part of the tree and lichens found here may indicate more recent changes in environmental conditions. Draw a graph / series of graphs to examine whether there is any difference (try to use a different technique to the bar graph you've already drawn)

Task 4: What do the graphs show?

Write a paragraph about the graph(s) you have drawn, describing what it/they show. Quote some figures in your description.

Task 5: Comparison of the environmental conditions

You are going to write a paragraph to summarise your main findings, and to compare each site. Use the information you've put together for tasks 1-4 to help you to do this. Try to also give some reasons for your findings, e.g. link back to the land-use in that area.

You could start like this..."I conducted a fieldwork investigation into the species of lichen at two contrasting sites. Site A was.....Site B was..... I found that

Extension: What about nitrogen enrichment? Examine your data to find out whether you found any lichens common in areas of nutrient enrichment, and try to link this to the land-use in that area.