

# Lesson Plan: Biodiversity

School: Liceo Majorana

Students: 14-17 y

Subject: **Biology-Maths**

**Goals:** to learn how biodiversity is defined, to learn why biodiversity is important, to understand the methods used by science to measure biodiversity.

## **1° Activity: what is biodiversity and how to measure biodiversity**

- General introduction to biodiversity (key words).
- Students learn to measure the richness and abundance of a model ecosystem (can of beans)
- Students learn to graph data for model ecosystems and the histograms will be used for the poster.
- Students learn to calculate a value that represents diversity (Simpson's diversity index).
- Students learn to use findings to answer questions about model ecosystems.
- Students take some photos of their model ecosystem for the poster.

**Goals:** to understand that each habitat (school garden) has a variety of plants, to understand that each species is defined by its own unique characteristics, to learn that biodiversity is an important characteristic of a habitat.

## **2° Activity: to identify and count the school garden tall trees to measure biodiversity**

- General introduction to taxonomy.
- Students learn to identify the different tall tree species present in the school garden.
- Students take some photos of the tall trees for the poster.
- Students count the number of the different species to measure the richness and abundance.
- Students graph data for school garden ecosystem and the histograms will be used for the poster.
- Students calculate Simpson's diversity index for school garden ecosystem.

## **Lab Activities :**

### **Biodiversity lab**

Bean Biodiversity LAB (doc)

<https://www.biologycorner.com/worksheets/biodiversity-beans.html>

<https://nature.ca/en/teacher-zone/teacher-resources/lessons/student-worksheet-measuring-biodiversity>

[http://gk12calbio.berkeley.edu/lessons/less\\_measbiodiv.html](http://gk12calbio.berkeley.edu/lessons/less_measbiodiv.html)

### **Simpson's index**

<http://www.countrysideinfo.co.uk/simpsons.htm>

<https://www.statisticshowto.datasciencecentral.com/simpsons-diversity-index/>