

Sampling Biodiversity in the Schoolyard

Background

In **systematic sampling**, a certain area is measured in a non random and consistent way. One way to do this is by a transect which is a straight line laid out within a study area. A **line transect** works by counting the species that touch/ are directly underneath the transect line. A **belt transect** works by using quadrats along the transect line and counting the organism within the quadrats. Students will be using the belt transect method to assess if the abundance of plants changes from a disturbed area (such as a path) to a less disturbed area (going further into the schoolyard or other green space).

Preparation

Identify the area with a path that students will survey. Look for any hazards on site, such as toxic plants, steep or uneven terrain, signs of bears or other wildlife in the area.

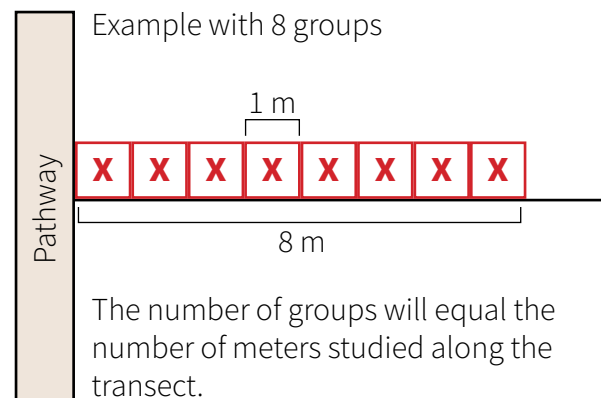
Discussion Questions

1. Is there a difference in abundance as you increase in distance from the path? If so, create a hypothesis as to why this is occurring.
2. Does disturbance affect the biodiversity of the transect? Think about the patterns that are shown and the type of species present.

Procedure

Students will set up one 10m tape or string/rope, perpendicular to a path or road.

Students will line up at every meter along the transect (starting a meter 0) and place their quadrat on the left side of the transect. The number of groups will equal the number of meters along the transect studied. If you have more than 10 groups, use the other 10m tape or rope and extend the length of the transect.



Each group of students will fill in the “in the field” section on the first page of their group datasheets.

Once back in the classroom, students will fill the “in the classroom” section on the second page of their group datasheets.

Choose the species with the greatest abundance on the transect line to use for the class data graph. This can be chosen by making a table on the board of the abundance that groups for each species.

Once this is completed, the class datasheet can be filled out either as a class, per individual student or per group.