SCIENCE AND TECHNOLOGY INNOVATIONS CENTRE | BACCHUS MARSH

Biodiversity of the Western Volcanic Plains

# Quadrats Online: Student Worksheet

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## Activity 2

## Investigating changes along a transect

## (Levels 6 & 9)

Victoria
The Place To Be

# Activity 2

Investigating changes along a transect (Levels 6 & 9)



## Introduction

What effect does a road or a walking track have on the types of plants growing nearby?

Environmental scientists are often interested in the answers to questions such as this one.

How would they go about investigating this question?

You are going to carry out an activity that simulates measuring densities of different plant species in a grassland area. In particular your aim is to determine the effects of a walking track through a grassland area on the plant community. This will allow you to practise quadrat sampling and to consider any difficulties when carrying out this technique in the field.

## Activity

1. Obtain a copy of the 'Investigating changes along a transect' grassland map for this activity.
2. On a separate sheet of paper cut out a 4 cm x 4 cm square. This will be your quadrat for this activity.
3. Decide as a class how you will count the numbers of plants in each quadrat e.g. how much of the plant has to be in the quadrat to be counted? Will this method work when you are out in the field?
4. After discussing the method as a class, decide with your partner where you are going to place your transect line on the template. Think about where the best place would be for your transect if you want to determine the effect of the path. Draw this line and mark off each centimetre.
5. Place your quadrat on the template at 6 cm intervals and record the numbers of each plant species in the table provided. Number each quadrat and label its position on the map.

## Results

| Quadrat Number | Distance from path | Number of native grasses per quadrat | Number of introduced grasses per quadrat |
|---|---|---|---|
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# Activity 2



## Interpretation of results

1. Comment on the density of native grasses at different distances from the walking track.

2. Comment on the density of introduced grasses at different distances from the walking track.

3. Can you offer any reasons for these observations?

4. If the introduced plants were not planted there on purpose, suggest how they may have arrived in the grassland, particularly with regards to their proximity to the walking track?

5. Do you think your results give an accurate representation of this grassland area?

## Conclusion

6. What is the effect of allowing people to walk through a native grassland area regularly, creating a worn track?

7. Can you suggest any alternatives to a walking track?

8. Explain what would need to be considered when carrying out an activity such as this one in the field?