**Belt transect in at National Park**

A group of students was asked to investigate the impact of human land use in a National Park on the species of plants and animals that were found there. The students decided to carry out a belt transect of open countryside, across a main walking path, in mid-Dartmoor.

Part of the data the students collected is shown. Data was collected on the percentage cover of 6 species, and the maximum height of the vegetation at each point was noted.

quadrat position along line, from starting point/m

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | | | | |  |  |
| Species present | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| grasses | 25 | 5 | 10 | 85 | 85 | 80 | 75 | 40 | 45 | 0 |
| heathers | 10 | 15 | 0 | 0 | 0 | 0 | 0 | 10 | 10 | 35 |
| mosses | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Gorse | 20 | 75 | 90 | 10 | 0 | 0 | 0 | 30 | 0 | 25 |
| Bracken | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 20 |
| Bare ground | 5 | 0 | 0 | 5 | 15 | 20 | 25 | 20 | 5 | 0 |
| Max height of vegetation | 70 | 65 | 45 | 10 | 10 | 5 | 5 | 30 | 70 | 65 |

Questions

1. Describe how you would use a transect to obtain the data that the student collected.
2. Explain why random sampling would not be appropriate to develop this data.
3. Plot a graph showing how the maximum vegetation height varied with distance along the belt transect.
4. Using the data gathered by the students, suggest how land use in this region affects the vegetation present.
5. A range of abiotic factors may also affect the species in the region studied. Suggest and explain how you would investigate the effect of one of these factors on the vegetation present.
6. Evaluate the quality of the data collected by the students.