

RANDOM PAIRS TREE ANALYSIS

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I. OBJECTIVE:

To investigate and compare the numbers, sizes and types of trees in various forest communities.

II. BACKGROUND:

Various wooded areas are referred to as “oak-hickory,” “beech-maple,” or perhaps some other name to indicate the predominant species of tree(s) in those areas. This analysis method gives a quantitative measure of how much of the land area is covered by tree trunks/wood of each species of tree in a given wooded area. Various areas can, thus, be compared with respect to both which species of tree(s) predominate and how much land area they occupy (related to both age/size and density of the trees).

III. MATERIALS NEEDED:

tree tape
 field guide to trees
 regular measuring tape
 compass
 optional: transit to determine height of selected trees

IV. PROCEDURE:

Move along a random route a predetermined number of paces. Stop and face the closest tree greater than 4 inches (10 cm) in diameter and record the species and diameter at breast height (dbh) (measure with tree tape). Turn around 180° and do the same (record species and dbh) for the nearest tree in this 180° arc (this half of an imaginary circle). Measure and record the distance between the centers of the two trees. Perform the required calculations using metric units throughout. Each team of students should strive to do at least 20 pairs of trees.

If an uncommon or unusual tree (species or large size) is found, use the compass to triangulate (record azimuth readings to two objects already mapped/plotted) its location. Make note of the species, diameter, and azimuth readings for this tree. Plot it on your map and turn in the information so that the location of the tree can be plotted on the large map. If time, use the transit to determine the height(s) of several notable trees, referring to the Mapping Lab for directions.

All data gathered (species, diameters, distances--from the first chart) should be entered into the computer for analysis. Note that to accommodate the measuring tapes we have available, the Web page will expect the diameter readings in inches and the distance between trees in meters. You will receive a printout similar to the second chart. You may wish to access previous years' data (available on the Web) to compare with your data.

V. DATA:

Location:		Date:		Distance between	
Pair #	Tree 1		Tree 2		
	Species	DBH	Species	DBH	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
				TOTAL:	
				Avg. distance X_D (tot dist/tot # prs):	

