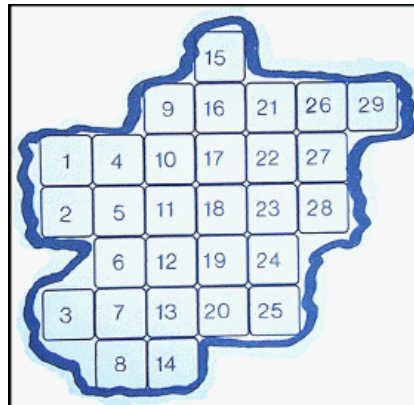


Sampling Lab 2 – Using an electronic table of random numbers to choose quadrats



1. Sketch a diagram of your "plot" of land. Be sure to mark in the dimensions of the "plot" as well. We will use a plot of 100 cm x 80 cm. (You will be computerizing this sketch later.)
2. Calculate the area of your plot (the entire plot):
3. Calculate the area of your sample (the size of the sample area is 20 cm x 20 cm):
4. Calculate the number of samples possible in your plot (divide the area of the plot by the area of the sample).
5. First, set up a grid system on the plot (do not write on the plot area!!!) and assign a number to each quadrat.
6. Go to: <http://www.graphpad.com/quickcalcs/index.cfm> and choose Random numbers to assign subjects to groups, simulate data. Then select "continue".
7. On the next screen, choose: Randomly select a subset of subjects. Then select "continue".
8. In the box to the right of "Randomly select" place 7 as you will need to take 7 samples.
9. In the "contain _____ subjects" put the number of quadrats that you determined that there should be.
10. In the "Repeat for _____ groups" box, be sure that 1 is listed.
11. Click "Do It!"
12. A Table appears. Print out this data and sample the "Group 1" quadrats.
13. Perform your sampling. Enter your data into Data Table 1.
14. Calculate the average number of plants per sample by dividing the total number of plants counted by the number of samples taken.
15. Calculate the estimated population of the plot by multiplying the average number of plants per sample by the number of samples possible in your plot.
16. Get data from another group counting the same plant type as your group.
17. Mark their data in "Data Table 2" and sketch in their sample locations on the same plot diagram as yours (somehow distinguish between their plots and yours).
18. In "Data Table 3," combine the data for "Total plants counted" between the two groups.
19. In "Data Table 3," calculate a new "Average plants per sample."
20. In "Data Table 3," calculate a new "Estimated Total Population"
21. What might have been the difference between the original estimations and the new one?
22. What problems could there be with using someone else's data? (assume they are very conscientious people...hint: uncertainty...)
23. Draw your diagram in a computer program. [and insert your plot, samples (both sets,) and dimensions. Be sure to have a title, your group member's names, and a key.]
24. Print out your diagram.
25. Turn in your data, diagram and random number printouts, as well as your calculations.



Data:

Data Table 1:

Sample Number:	Plant Count:
Sample 1:	
Sample 2:	
Sample 3:	
Sample 4:	
Sample 5:	
Sample 6:	
Sample 7:	
Total plants counted:	
Average plants per sample:	
Estimated Total Population:	

Data Table 2:

Sample Number:	Plant Count:
Sample 1:	
Sample 2:	
Sample 3:	
Sample 4:	
Sample 5:	
Sample 6:	
Sample 7:	
Total plants counted:	
Average plants per sample:	
Estimated Total Population:	

Data Table 3: Combined

Total plants counted:	
Average plants per sample:	
Estimated Total Population:	

