

PLANT SURVEY DATA SHEET

A plant survey can help you identify the names, sizes, and locations of the different plants in your schoolyard. It is useful to complete a plant survey before beginning a habitat restoration or school garden project.

Materials: clipboard, pencil, yardstick, flexible measuring tape, calculator

Observer(s): _____

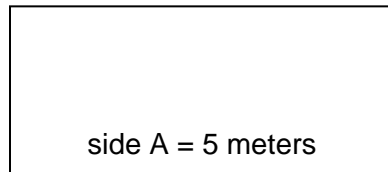
School name: _____

Brief description of plot area: _____

Date: _____

1. Choose a square or rectangle area of your schoolyard to complete a plant survey. Different student groups can choose different plots.
2. Measure two sides of your plot in meters or yards. Multiply the two sides to find the area. Record this value on your data sheet.

Ex:



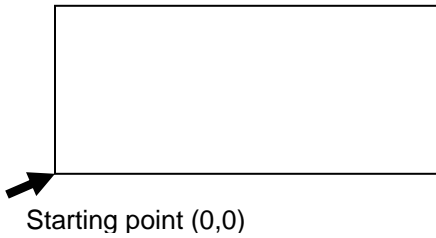
side B = 2 meters

$$\text{Area} = 5 \text{ m} \times 2 \text{ m} = 10 \text{ m}^2$$

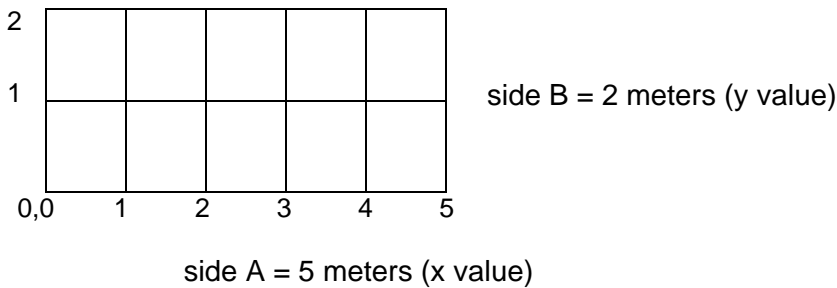
3. Identify the different trees in your plot and write their names in the plant data sheet. If you have more than four, use multiple data sheets.
4. Estimate the height of each tree by using the directions on page XXX. Fill out this information on the data sheet. A tree is large upright, perennial, woody plant with branches and a main trunk.
5. Measure the circumference of each tree and write the value on your data sheet.
6. Repeat steps 3-5 for any shrubs, grasses or herbaceous plants found in your plot. If you are tall enough, you can measure the actual height and not the estimated height. Write each value on your data sheet. Shrubs are distinguished from trees by having multiple stems, lower height and a rounder or more spreading appearance. Grasses and herbaceous plants are usually small and non-woody.

7. Make a coordinate grid of your plot.

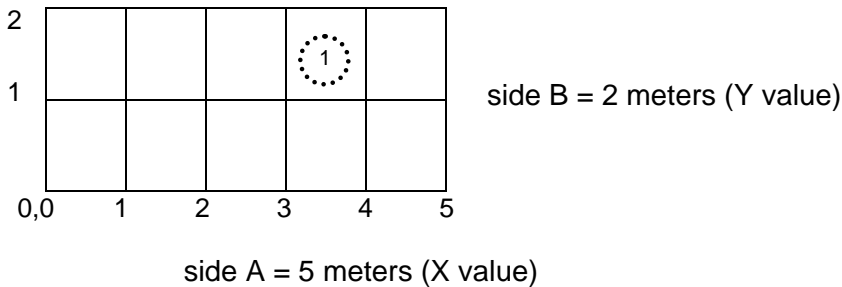
i. Mark one corner of your plot as the starting point.




ii. Create a grid using one unit of your length measurement as one grid mark. For example if your unit of length measurement is a meter, your scale would be in meters.



8. Measure the x and y distances of each plant species from your starting point. Write these values on your data sheet.



Example:

Tree  -

X distance = 3.5 m from the starting point
Y distance = 1.5 m from the starting point
coordinate value = (3.5m, 1.5m)

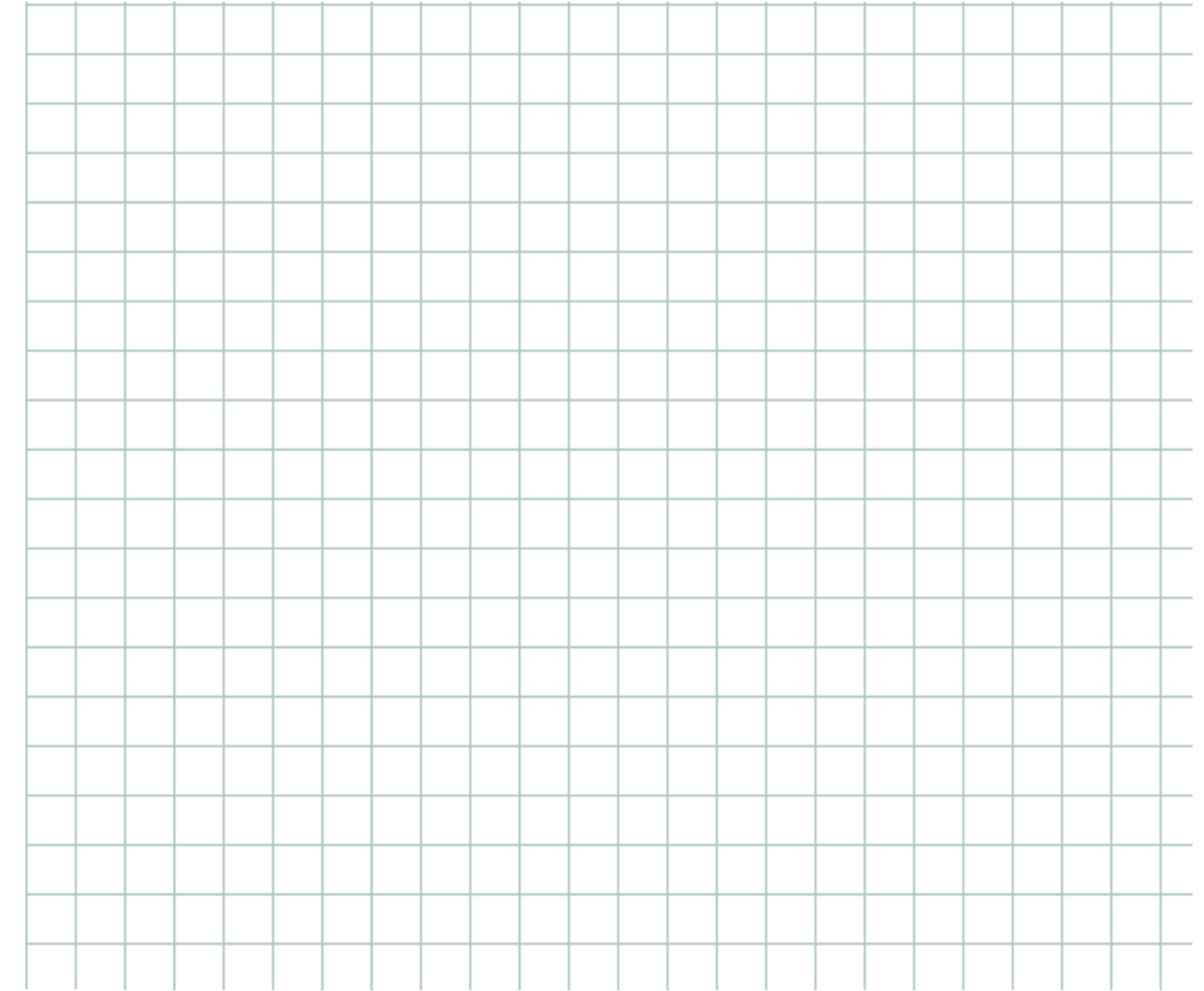
9. Using the coordinate values, map each of your plants on the grid.

PLANT SURVEY DATA SHEET

Plant type				
Trees				
species names	1	2	3	4
estimated height				
trunk circumference				
Shrubs				
species names	5	6	7	8
estimated or actual height				
shrub circumference				
Grasses or Herbaceous plants				
species names	9	10	11	12
actual height				
<i>Bare ground-estimated area</i>				
species number	X distance	Y distance	Coordinate value (X,Y)	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

My plot area = side A x side B = _____ x _____ = _____

MY SCHOOLYARD PLANT MAP



0,0

Key:

○ = tree

⊕ = herbaceous plant or grass

△ = shrub

How to estimate the height of a tree in your schoolyard:

On a sunny day hold a yardstick perpendicular to the ground and measure the length of its shadow. Then measure the length of the tree's shadow. Enter your data in the following formula to determine the height of the tree. Everything you enter into the formula needs to have the same units.

Formula: $\frac{\text{height of the yardstick} \times \text{length of tree's shadow}}{\text{length of yardstick's shadow}} = \text{height of the tree}$

EX: height of yardstick = 3 ft length of tree's shadow = 100ft
length of yardstick's shadow = 6 ft height of tree = ?

set up a proportion:

$$\frac{\text{height of yardstick}}{\text{length of yardstick's shadow}} = \frac{\text{height of tree}}{\text{length of tree's shadow}}$$

$$\frac{3}{6} = \frac{x}{100} \quad \text{solve for } x$$

$$\frac{(3\text{ft} \times 100\text{ft})}{6\text{ft}} = ? \text{ ft}$$

$$\frac{300 \text{ ft}}{6 \text{ ft}} = 50 \text{ ft}$$

The height of the tree = 50 feet.

How to estimate the circumference of a tree in your schoolyard:

Using a flexible ruler, such as a sewing measuring tape or a 30-m measuring tape, measure the girth of the tree. The value you measure will be your circumference.

Using your plant survey

A. *Interpreting Survey Data*

Comparisons can be made between plant communities and the abundance and type of wildlife species found there. Are more wildlife species found in areas where there are more species of plants or in the areas of greatest canopy cover? What types of species can you find in each habitat type?

B. *Repeated surveys*

Once the initial survey has been completed, additional surveys can be done during different seasons or times of day. Record which species of plants are flowering and fruiting or take growth measurement.

C. *Estimate the percent of area covered by different types of plants*

Using your plot map, estimate the area each species type covers in your plot. Combine your answer with other groups to determine the area covered by each specific type of plant in your schoolyard.

To find the percent coverage of a specific type of plant use this equation:

$(\text{estimated area covered by the plant (class total)} / \text{total area surveyed}) \times 100$

D. *Comparing to natural ecosystems*

Once you have completed your survey, compare the type of plant species you have in your classroom to natural Florida ecosystems. How does your schoolyard plant diversity compare to the diversity of a natural ecosystem? What type of Florida ecosystem does your schoolyard most closely resemble?

E. *Creating a schoolyard ecosystem and/or school garden*

Identifying existing plant species is an important first step in creating a schoolyard ecosystem, restoring a native habitat, or creating a school garden. Once you have identified and mapped the flora it is easier to incorporate those plants into your new habitat or garden.