

Inch by Inch, Row by Row

Description

Students plan and map garden beds using information about growth requirements for each plant.

Objective

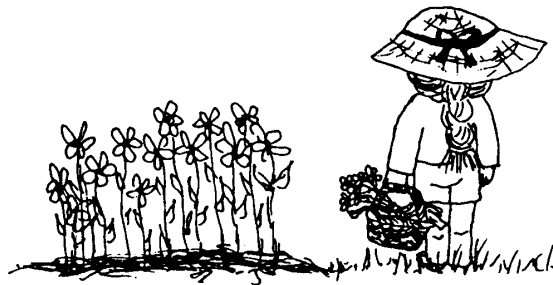
To combine several skills to create a garden design, including research, mapping, and drawing to scale.

Teacher Background

Designing the garden gives students the opportunity to practice mapping skills and a purpose to research information about specific plants. Plants should be rotated. If the same plants are always grown in the same soil, disease organisms can build up, and the soil can be depleted of certain nutrients. The roots of each plant grow to different depths, and each plant consequently has different spacing requirements. Consult the Vegetable Planting Guide (see Appendix) or seed packages for spacing information. Consult your local Agricultural Extension Office for a list of vegetable varieties that grow well in your area.

Materials

Five copies of the Vegetable Planting Guide, Appendix pp. 452-453
One copy of the Companion Planting Guide, see Appendix pp. 455-457
Five copies of the list of plants to be grown, see ZIP Code Seeds activity
One map of last year's garden or list of what was grown
Seed packets and catalogues
Graph paper
Ruler
One magnetic compass



Preparation

Make a list of all the plants to be grown. Make a list of last year's garden plants.



When plants grow, do they all look the same? What are some differences? What are some plant needs we should consider when planning our garden? (space, sunlight, root depth, height) How can we find out specific needs of each type of plant? (seed packets, seed catalogues, gardening books) To make a map of our garden plan, what other information do we need? (Be sure to agree to a common scale for mapping on graph paper.)



1. Divide the class into five groups.
2. Role play the spacing needs of plants. Have each group gather in a small space, each huddled in a ball, and ask them to stretch out slowly to their full height. How do they feel? Do they think they could each get enough food and water? Ask them to turn to the sun. Do they think they would each get enough sunlight? How could they change their spacing so that everyone is happy?
3. Distribute to each group Vegetable Planting Guides, graph paper, pencils, straight edges, and a list of plants to be grown. Explain that each group will work on one part of the problem. Later, representatives from each group will get together to compile the information to make a map.

Group 1 will draw the size and shape of the garden to scale on the graph paper, orienting it to the compass directions and showing all permanent features, such as trees and buildings.

Group 2 will create a list of the plants to be grown according to height. They should first make a bar graph, with the plant height on the y -axis and the plant name on the x -axis and use the graph to create their list. Seed packets and catalogues may be used as reference.

Group 3 will create a list of compatible plants to be grown by filling out three columns: name of plant, companion plant, antagonistic plant. The Companion Planting Guide may be used as reference.

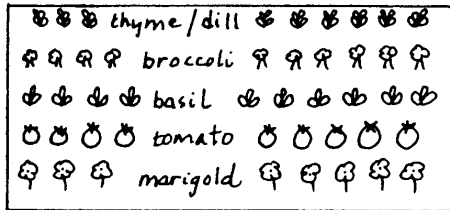
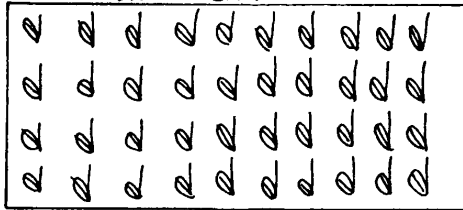
Group 4 will list the space requirements of each type of plant using the Vegetable Planting Guide and information on seed packages. They will indicate on graph paper the space requirements by shading the number of square inches or feet needed by mature plants.

Group 5 will analyze last year's garden to ensure that plants are rotated in this year's garden. Using the list of last year's plants and the Plant Rotation information, they will construct a rough map and will recommend which plants may best be grown in each bed this year.

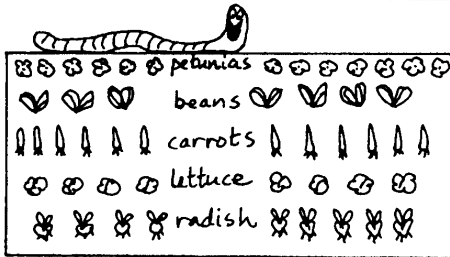
Compiler Group: A representative from each group will meet to create a single garden map. (See illustration.) Students should have fun advocating the needs of each plant in making decisions. Have them present their results to the rest of the class in an imaginative way.

★ GARDEN PLAN ★

sweet corn



nasturtium



potatoes



What would be the outcome if we simply scattered seeds randomly in the garden? Why bother to plan the garden? What is the difference between a garden and a natural field? What did you learn from making your garden map?



Have students make a papier-mâché or clay model of the garden.