

How should we lay out our garden to grow the best pumpkins?

PROJECT PUMPKIN (gr 3-5)

Planning the Garden

(ILS 7A, 17A)

Overview

This curriculum explores the relationship between people and the food they eat. By growing pumpkins in a garden plot, the curriculum takes teachers and students through six features of sustainable agriculture that separate it from conventional farming. If the entire curriculum is completed, students will gain an understanding of sustainability and people's place in the food chain.

Sustainable Agriculture, for the purpose of this curriculum, shall be defined as "a system of food production, supported by consumers, where farming operations, practices and technologies work in harmony with the natural systems that sustain life on earth."

Suggested Grade Level

This curriculum is designed for 3rd through 5th grade levels. The topics covered can be built upon in complexity throughout that age range.

Approximate Time

30 minutes.

Objectives

1. The students will plan and map their garden plot.

Activity Abstract

In this lesson, students will help choose the arrangement of their garden. They will create a map of the garden on paper.

Background Information

All in all, the best source of information about seeds is seed packets themselves, which always contain information about where, when and how to plant seeds. The class can choose what type of pumpkin to plant – jack-o-lanterns, eating pumpkins, or other varieties.

Materials

- Paper
- Crayons
- Garden space
- Seed packets for planting and background information.

Teacher note:

Don't want to plant just pumpkins?!? Consider companion planting. Pumpkins do well when planted with radishes and corn. (Planting pumpkins with beans is good but will ruin the Nutrient Management experiment!) See Appendix A!



Procedure (Session 1)

1. **Tap Prior Knowledge.** Review the Nutrient Management experiment. Ask students about their gardening experience to glean background knowledge.
2. **Introduce (scientific) principle.** Explain, today we're going to plan our class garden. First, let's see what we're planning.
3. Go out to garden site. Look at it and ask questions of the kids... is it sunny or shady? What shape is it? Measure the site (write down data). Make sure to note the measurements of the area that laid fallow and the area with the cover crop.
4. Return to classroom.
5. **Hands-on experience.** Draw the garden on the board (outline shape). Have each student do the same on a piece of paper.
6. Explain that each student should draw a map of the garden with their vision of which plants should grow where. Remember that for the Nutrient Management legume experiment, the cover crop area and the fallow area should grow the same things! Their map should have a key/legend that shows a symbol for each type of plant. (Fences, etc. too?) Use colors for fun and visual stimulation. Use rulers to create a scale.
7. Explain to students that to plant pumpkins, there should be a group of 4 to 6 seeds placed in a mound about 2 feet across; cover with 1/2 inch of fine soil, well pressed down. Each ring of seeds is called a **hill**. Hills should be spaced 5 to 10 feet apart each way. When pumpkins are grown in hills make sure there is approximately 50-100 square feet of space per hill for the pumpkin vines to grow. Hill planting on rich soil or organic matter helps guarantee these **heavy feeders** get what they need.
8. If planting corn with pumpkins, the mounds should be 3 feet across. Sow 6 corn seeds in the middle and plant the pumpkin seedlings on the outer edges of the mound; radishes can be planted in a circle around the outside of the pumpkin hills to minimize the impact caused by rootworms.
9. Display pictures. Have kids vote for their favorite layout but they can't vote for their own.
10. **Relate concept and activity.** Draw "winning" picture on board.
11. **Conclusion/Wrap-up.** Explain that now that we have a plan for the garden, we will have to have a plan of action. Ask the students to think more about what goes into growing a garden for next time.

Extension

Have the students research companion planting and try to figure out WHY things do or don't work well together.

References

<http://www.backyardgardener.com/veg/indexkitchen.html> really good info on planning and spacing plants.

<http://muextension.missouri.edu/xplor/agguides/hort/g06201.htm> click on the vegetable to learn how long it takes to grow and how far apart to plant them and everything else.

Appendix A. Companion Planting Guide.

Crop	Plant with	Don't plant with
Corn	Potatoes, peas, beans, squash (pumpkin), cucumbers	Tomatoes
Pumpkin	Corn, radishes	Potatoes
Soybeans	Grows with anything, helps everything	
Marigold	Hardworking pest deterrent; plant throughout garden to discourage insects, nematodes, and other pests.	