

**Why are we building a garden and how can we improve it?**

## **EDIBLE GARDEN PROGRAM (6-8)**

### **Planning the Garden**

**(ILS 4A and B, 5A and B, 6B)**

#### **Overview**

The key question for this activity is, "Why are we building a garden and how can we improve it?" And there is no better way for students to answer that than to grow and cook their own food. Using the garden and kitchen as the facilitators, they will inspire student inquiry and teach them about Sustainable Agriculture, specifically, local food production and consumption.

For the purpose of this curriculum sustainable agriculture shall be defined as follows: "Sustainable Agriculture is 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 middle school/junior high grade levels. The topics covered can be built upon in complexity throughout that age range.

#### **Approximate Time**

The activity takes approximately 90 minutes, and can be done all at once or in two, 45-minute sessions

#### **Objectives**

1. The students will review the key components for successful plant growth: water, air, soil and sun.
2. The students will gain problem solving skills through garden evaluation.
3. The students will design their garden for the current growing season, meeting the establish goals for building a garden.

#### **Activity Abstract**

**Tools for Garden Design:** Students will review the key components necessary to grow a garden followed by identification of the problems in their garden from the last growing season and their solutions. They will then define the purpose for growing their garden.

**Garden Design:** With their established tools, groups will design a garden. The class will vote for the best group design or select good features from each to create a class garden design.



## **Background Information**

The key components for healthy plant growth are sun, soil with high organic matter, water and air.

The likely problems a garden will face are the following:

1. Poor sunlight. A plant requiring full sun needs sunlight 4 hours a day between 9 AM and 3PM.
2. Taller plants blocking shorter plants reducing the necessary sunlight exposure.
3. Inadequate watering.
4. Inadequate weeding.
4. Soil and air borne pests and diseases. You can find useful sustainable methods for pest and disease control at the web site <http://attra.ncat.org/>

## **Materials**

For each group of four students:

- chalk board, chalk
- student note pads, pencils
- last year's garden design
- last year's garden evaluation
- access to the internet: suggest using the site <http://attra.ncat.org/>

For each student:

- Paper
- Pencil
- Ruler
- Notes from Session I
- Seed company catalogues (available on Internet at <http://www.underwoodgardens.com/main/DOCS/PlantsFrame.html> or <http://www.seedsofchange.com/>)

## **Procedure (Session 1)**

1. **Tap prior knowledge.** Ask the students what are the key components required to grow a plant. Generate a brainstorm list on the chalk board. Feel free to have this discussion extend beyond edible plants into native and horticultural plants.
2. **Introduce scientific principle.** Ask several volunteers in the class to take notes. The information gathered here will be vital for garden design.
3. Identify the garden problems. Revisit the garden design from the previous growing season and the evaluation notes from the garden journal. Create a list, through another brainstorm session, of the problems observed during the previous growing season. **THIS MAY HAVE BEEN COMPLETED IN THE FALL WHILE DOING THE "HARVEST THE CROP" ACTIVITY.** Revisiting the topic in the spring is a great refresher. If this is the first year the class has grown a garden, brainstorm possible problems.
4. Solve the garden problems. Have the students create solutions for the garden problems. If, for instance, pests are identified as a problem, you may want the class to do an internet search using the site <http://attra.ncat.org/> to create sustainable pest management

**Teacher Note!**  
**If pests are a problem in the garden, consider doing the Integrated Pest Management activity in this curriculum.**



- solutions. Skip this step if this is the first year the class has had a garden.
5. Establishing the objectives for growing a garden. The students will feel more ownership of their garden if they have created the garden objectives. It may be worthwhile to keep the objectives handy for session 2.

### **Procedure (Session 2)**

1. **Tap prior knowledge.** Review the garden objectives established in session 1.
2. Divide the class into groups of four students.
3. **Hands-on experience.** Give students the garden dimensions and any other parameters that may affect the garden design (ie, budget).
4. Have each group create a garden design using their notes and the seed catalogs. Have each group create a map, with a legend/key, a scale, and a compass rose. A written description of the plan should accompany the map.
5. Have each group create a presentation of their ideas to give to the class. The presentation should highlight the design features and how they help meet the objectives established in session 1.
6. **Conclusion/Wrap-up.** Have a class discussion to determine which features of the various designs they'd like to incorporate into the final class design.
7. Have a design team draw up a final class garden design.

### **References**

Seed catalogue <http://www.underwoodgardens.com/main/DOCS/PlantsFrame.html>

Seed catalogue <http://www.seedsofchange.com/>

Information on pests management and how to plant types of vegetable plants using sustainable farming methods. <http://attra.ncat.org/>

