



## Basic Vegetable Gardening

### Lesson 2: Designing the Garden

**Lesson Summary:** In this planning activity, boys and girls will design a garden. They will make a list of plants to include in the garden and then draw a map of their garden and where they will plant each vegetable.

#### **Intended Learning Outcomes:**

Boys and girls will be able to make a drawing of a garden design.

**Length:** 60 minutes

#### **Materials:**

3 pieces of A4 paper or notebook paper  
Chalkboard or large paper for the leader  
Dimensions of garden site

**Background:** Conduct this lesson after your group has decided where to put their garden.

During this lesson, members will make a plan for the garden. This is the second step.

1. Choosing a site: Where to put your garden
2. Preparing a site: Choose your garden design
3. Planting the garden
4. Tending the garden
5. Harvesting, preparing and eating the food

**Leader Note:** See Lesson #11 for additional information on alternative gardening methods.

#### **Lesson Steps**

##### **1. (3 minutes) – Introduction**

**Have boys and girls summarize the key points from the previous meeting or lesson.** If the group completed Lesson 1, they should recall that they decided on a site for their garden. Reinforce the key points of choosing a garden site, including considering the topography of the land, traffic patterns, safety and security. Review the characteristics of the chosen site to remind members why they chose the site. Refer to members' notebooks to look at how the garden site was rated on their charts.

##### **2. (20 minutes) – Members decide what plants to grow**

**2.1 (3 minutes) Discuss the different gardening techniques with the group and decide on the best one for your group.** If you are not building on a slope and do not have water problems, then a rectangle garden is a good type of garden to start with. Use raised beds if you have concerns about your soil quality.



**2.2 (5 minutes) Split the members into groups of 3. Instruct the groups to create a list of 10 plants they would like to plant in their garden.** Members must work together to make their list. Remind the members of any goal you have for the garden, such as being able to cultivate vegetables throughout the year, or providing nutrition to members. You may also want to hand out the list of vitamins associated with different plants found at the end of this lesson.

**2.3 (10 minutes) After the small groups have created their lists, have each group read their list out loud.** As they read the lists, the leader or another member should make a complete list on the chalkboard or a large sheet of paper. Duplicate plants should be marked so the class can see which plants were listed by more than one group. After the plant names are written on the board, narrow the list down to about 8 – 15 different types of plants. As you narrow them down, cross off any plants that would be very difficult to grow in the conditions of your garden.

### **3. (20 minutes) – Designing the Garden**

**3.1 (5 minutes) Now the whole group will design the layout of the garden.** First decide if defensive plants will be planted around the perimeter of the garden. Insect-repelling plants such as marigolds, pyrethrum (chrysanthemum) or daisies help repel pests. Sisal (agave sisalana) or African milkbush (euphorbia tirucalli) help repel animals. Discuss with the class if any of those plants will be planted around the garden. Take your environment into consideration when deciding whether or not it is necessary. Next begin drawing a diagram of where each type of plant will be planted in the garden. As you are doing this, remember that some plants like squash and pumpkins require larger amounts of space, as they are planted in large mounds. Most other plants will be planted in rows.

**3.2 (5 minutes) If you do not know the dimensions of your garden, go outside and measure the perimeter of your planting space.** If the garden is not square, make a map so your plan can be more accurate.

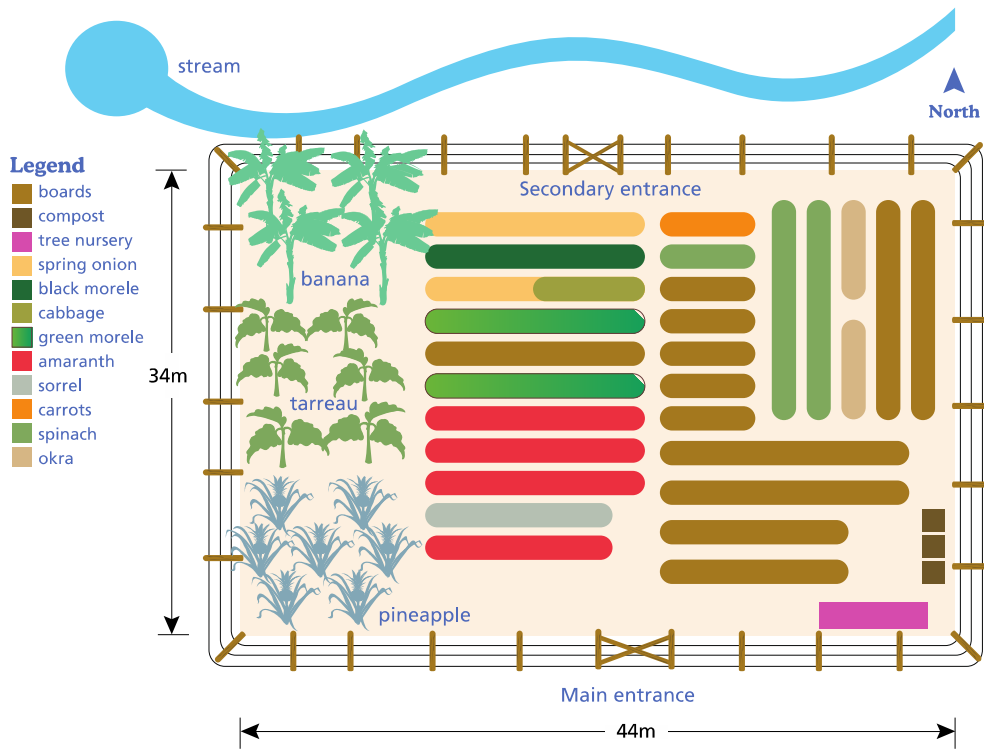
**3.3 (10 minutes) With the whole group, draw an outline of the garden space** on the chalkboard or on a large sheet of paper. Take suggestions from group members as to where the plants should be planted. You will want to develop something like the examples shown below.

**Companion Gardening** – As you design the garden, keep in mind that to maximize space, provide natural pest control, and promote favorable growing conditions, it is important to interplant crops that have varied root levels. For example, onions, eggplant and peppers each have roots which seek nutrients at different depths in the soil. Each plant also promotes the proper biological functions to restore the nutrients that the other companion plants use. Some plants should not be planted together. They may stunt each other's growth, attract harmful insects, or release chemicals that suppress growth.

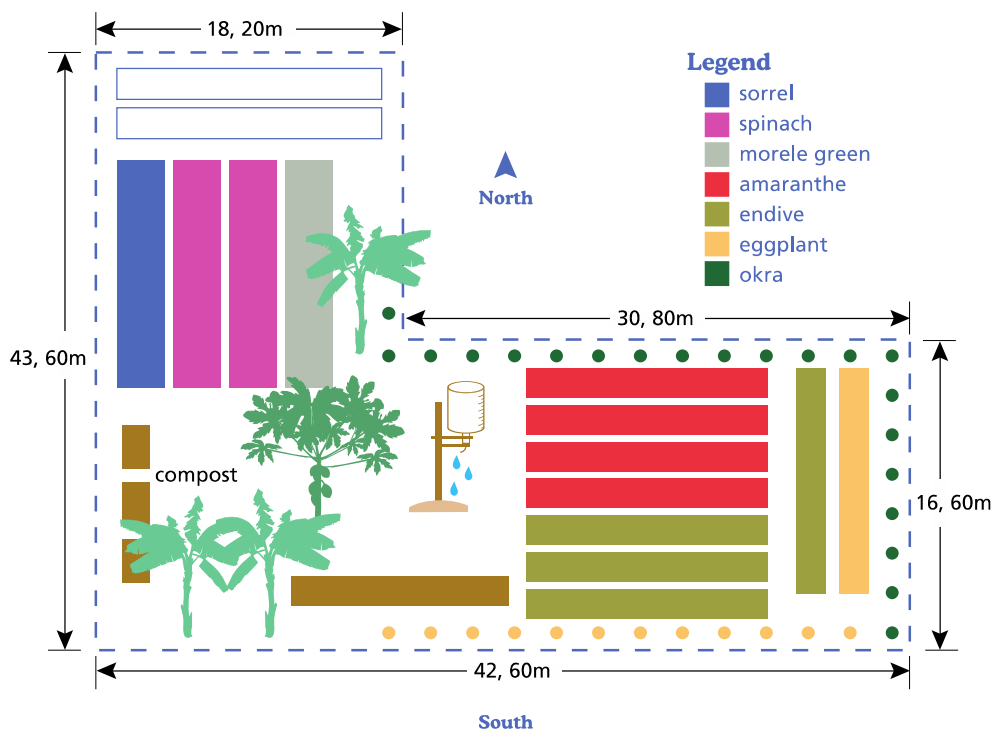
- Do not plant corn with tomatoes.
- Do not plant potatoes near squash or peas.
- Do not plant peas or beans next to onions.



# School Garden Plan Example A



# School Garden Plan Example B



#### 4. (10 minutes) – Summary and Debrief

4.1 Discuss the key points of the lesson by asking the members some of the following questions:

- Can you think of a way your family could plant a small garden?  
*Answer:* Families can plant vegetables or herbs in small containers around the house. Families could also build a small square garden. See lesson #11 to learn more.
- What would be the best types of plants to plant in a small container garden?  
*Answer:* Herbs and other smaller plants are perfect for growing in small containers. Tomatoes and peppers work well because they produce fruit for a long time. Radishes, lettuce and carrots do not need very much space, so they also work well in containers.
- What is something you could use at home for a container for your plants?  
*Answer:* Note: Containers for gardens could be almost anything including pails, buckets, wire baskets, plastic bowls and sacks, wooden boxes, washtubs, large food cans, or any number of things. It is important to make several holes in the bottom of the container for drainage.
- How could you find out more information about planting a small garden at home?  
*Answer:* Ask the teacher for more information, consult members of the community, or use the teacher manual as a resource.
- What are some things you learned today that would help you plant a garden at home?  
*Answer:* There are many different ways to garden and therefore, it is possible for anyone to plant a garden at their home, even if space is limited, you are in poor health, or you cannot dig up the ground.
- What is one thing you would like to share with your parents or brothers or sisters about planning the garden?

#### 5. (2 minutes) – Close

**Thank the participants for their good work and ideas and notify them of the next meeting date.** Tell them that they will begin an experiment at the next gathering that will test the viability of the seeds. (Viability is how well the seeds will grow into plants.) They will also be working in the garden at the next gathering, so they should wear appropriate clothing.



Be sure to collect any drawings or notes if you want to keep them for the next meeting.

## Nutritional Benefits of Common Fruits and Vegetables

Amaranth	Good source of Vitamin A, B, C, calcium, and iron
Banana	High in potassium and energy Easily digested (good for infants and elderly persons) Small amounts of vitamin A and C
Cabbage	Vitamin A, C, zinc, and fiber
Carrot	Excellent source of vitamin A
Cassava	High in Vitamin C, good source of fiber and some energy
Citrus	Excellent source of vitamin C
Collards	Excellent source of vitamin A and C, iron and calcium Some vitamin B and K, folate and potassium
Corn (Maize)	Energy, potassium, fiber, vitamin B
Cucumber	High in potassium and fiber, some vitamin A, B, C
Eggplant	High in potassium
Endive	Vitamin A, C, K, iron, calcium, potassium, and folate
Green Bean (French Bean)	High in fiber, iron, zinc, and potassium
Gumbo (okra)	Vitamin C, iron, calcium, potassium
Mango	Excellent source of vitamin A and C, and potassium
Onion	Vitamin C and potassium
Papaya	Excellent source of vitamin C, high in vitamin A Contains papain, an enzyme which aids digestion
Peanut (ground nut)	Excellent source of protein, fat, iron, and vitamin B
Pepper (green or red)	Excellent source of vitamin A, high in vitamin C Mostly useful for adding flavor
Pineapple	High in vitamin C
Plantain	High in vitamin A and C. Some iron
Pumpkin	High in vitamin A and energy
Sorrel	Some vitamins, minerals, and fiber
Spinach	Excellent source of vitamin A, high in many other vitamins and nutrients, including vitamin B, C, K, iron, calcium, folate, and potassium
Sweet Potato	Excellent source of vitamin A and C Raw leaves are rich in iron, vitamin A and C, and energy
Tomato	High in vitamin A and C and lycopene
Yam	Good source of vitamin C

