



Curriculum and Activity Guide for
Instructors

GROWPLANTHERE! Adventures in Urban Gardening

INTRODUCTION

Making affordable, locally and regionally-grown organic food available to all, rich, middle-income and poor, must become a top priority for city and county governments across the nation. Making the transition to organic food and farming stimulates the local economy, improves public health, sequesters enormous amount of climate destabilizing. – www.sacgardens.org

"While the problems of poverty and powerlessness facing the poor in drylands can only be eliminated by addressing their social and economic roots...gardens can provide immediate benefits, and most importantly, can provide those benefits in a way that contributes to the solution of the larger problems."--*Food from dryland gardens*, p. 9

Gardening has numerous global, local, and personal benefits. These benefits include: minimizing the “demand on energy intensive food production” thus reducing our carbon footprint, making healthy organic foods affordable, exercise and engaging with others in local communities.

GROWPLANTHERE! Adventures in Urban Gardening is a four-week introduction to vegetable gardening course for “urbanites”, renters, apartment dwellers, anyone who lives on a small amount of land or anyone who wants to create a vegetable garden in a small space. The GROWPLANTHERE! curriculum walks students and instructors through the basics of beginning a vegetable garden. Each week the students are introduced to a different topic to gradually build their knowledge. By the end of the course the students will have a basic understanding of how to begin, cultivate and harvest a garden. The students will participate in synched learning opportunities weekly through meetings, field trips and online activities.

Curriculum Outline

- Week 1. Garden Design
- locations for a small urban garden
 - factors to consider when selecting a location
 - determining materials needed to begin garden
- Trip to local Community Garden
- Week 2 What, How, and When to Plant
- planting the seeds/seedlings
 - soil selection
 - what to plant/seasons/calendar
- Trip to Gaddy's Nursery in Pflugerville, Texas
(local nursery/small business)
- Week 3 Maintaining and Protecting the plants
- Light and Water relationship (timing)
 - pesticide
 - fertilizer
- Master Gardeners (live online chat)
- Week 4 Harvesting the plants
- When to pick your herbs/vegetables
 - What to do with them (recipes)
- Trip to East Side Cafe (local restaurant that creates dishes using food from their garden and a local farm) or Farmers Market

Learning Environment

The GROWPLANTHERE curriculum is intended to be completed in a hybrid educational environment. In a face-to-face classroom setting students discuss and collaborate on weekly activities. A weekly curriculum guide is provided, outlined with activities for the students to complete in a 45-minute class.

Field Trips

The GROWPLANTHERE curriculum also includes weekly field trips. The field trips are synched learning opportunities that allow the teachers and students to make connections between the class objectives and global and local issues. Each field trip should increase the students' knowledge and awareness of the issues associated with gardening.

Week 1: Trip to local Community Garden

(Example of an urban garden design)

Learning Goal: -See the design of a community garden
 -Understand the health benefits from gardening and how gardening builds communities

Week 2: Trip to Gaddy's Nursery in Pflugerville, Texas

(local nursery/small business)

Learning Goal: -Identify how to select soil, compost, plants based on local environment and climate
 -Understand impact on local area and economy

Week 3: Master Gardeners (live online chat)

Learning Goal: -Increase knowledge of plant maintenance
 -Understand impact on global and local environment

Week 4: Trip to East Side Cafe or Farmers Market

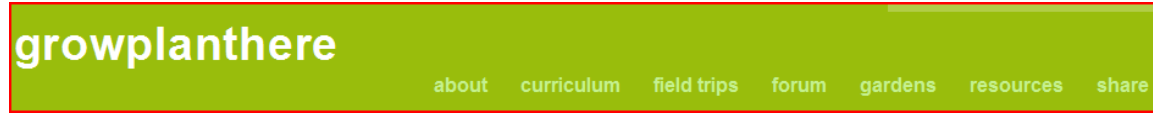
(restaurant that creates dishes using products from their garden and a local farm)

Learning Goal: -Identify examples of how to use harvested plants
 -Understand impact on local economy

Online Learning Environment

The online learning environment is comprised of several pieces that allows for collaboration and delivery of important parts of the curriculum in a variety media types. The online environment is intended to be used in conjunction with the face-to-face meetings.

How to use the Online Environment



about

This area of the learning environment provides information about the GROWPLANTHERE! initiative.

curriculum

This area of the learning environment is houses the teacher's guide and weekly curriculum information.

field trips

This area of the learning environment is includes updates from the weekly field trips. The instructors and/or students can document highlights and important information from the trip, post video and pictures from the field trip, and make comments.

forum

This area of the learning environment is where students congregate online. Students are grouped into "pods" according to their garden design interests. The students will use this area to collaborate with the instructors and each other by continuing class discussions and creating discussion, and participating in discussions by sharing their experiences and knowledge with one another.

gardens

This area of the learning environment is where instructors provide the students a weekly update about their experiences starting a vegetable garden.

resources

This area of the learning environment is where a Master Gardener or gardening expert responds to questions from the students. The students can interact with the expert in two ways, by posting a message in the Resources forum or by using the hashtag #growplanthere in a tweet.

share

This area of the learning environment is where students can document their journey throughout the course. Students can create a slideshow of pictures to share with their classmates.

“Urban gardens can contribute to household food security, especially for poorer households. In addition to increasing the social and economic sustainability of food production, they can also contribute to environmental sustainability by decreasing inputs and negative environmental effects of food production. Studies of urban gardens at the household and community level are important to understand how such gardens might make more efficient use of resources and contribute more to household food security.– David Cleveland, “Are urban gardens an efficient use of resources?”



Weekly Activities

Week 1: Small Space Garden Design

Objectives:

Describe a variety of small space garden types

Determine where to place a garden based on space available, exposure to sun, amount of time available/desired, what you want to plant

Know what materials are needed to begin garden

Introductions –

Introduce yourself to the class. Some information you may want to share

Do you have a garden? Why or Why Not?

Why are you interested in gardening?

Ask students to introduce themselves and why they are interested in gardening.

Explain why gardens are important:

On a global scale – Sustainability, less waste, green and organic gardening techniques

On a local scale – Fresh, healthier foods, knowing where food is from, less dependent on gas and oil for delivery of foods, spending less money

Explain to the class that gardening can be as sophisticated or as simple as they want it to be. One of the goals of this class is to expose you to a variety of techniques to use to begin and maintain a garden. Use this information as guidelines and adapt them to your needs and comfort level.

Types of Gardens

Popular Garden types for Small Spaces

Container Gardening

Patio Gardening

Square Foot Gardening

Community Gardening

Window Gardening

Please note that many of these gardening types are subsets of one another. For example, a square-foot garden can be created in a backyard or in a community garden. Container gardens can be created on a patio, balcony, deck or inside.

Below are videos and websites with additional information about each garden type. If you aren't sure about a garden type, take 5 – 10 minutes to look at some of the resources below.

Gardening Ideas:

<http://www.youtube.com/watch?v=eSUC3AHekRs&feature=BFa&list=WL9A4FCB337DD545D0&index=2>

General Gardening Tips:

http://aggie-horticulture.tamu.edu/lawn_garden/veg.html

Square Foot Gardening:

<http://www.mysquarefootgarden.net/choosing-a-gardening-method/>

<http://www.youtube.com/watch?v=N0NBiyd8w&feature=BFa&list=WL9A4FCB337DD545D0&index=6>

<http://www.youtube.com/watch?v=UNxmOrxZM9Q&feature=BFa&list=WL9A4FCB337DD545D0&index=7>

Community Gardening:

<http://www.communitygarden.org/learn/>

Patio/ Balcony/Container Gardening:

<http://www.youtube.com/watch?v=smS20a1Hbec&feature=BFp&list=WL9A4FCB337DD545D0&index=1>

<http://www.youtube.com/watch?v=uBLfVXpRkPQ&feature=BFa&list=WL9A4FCB337DD545D0&index=4>

Window Gardening:

<http://www.youtube.com/watch?v=S9q6yOKcg8&feature=BFa&list=WL9A4FCB337DD545D0&index=5>

Class Activities

Activity #1: Determining where to place your garden

When determining a location for your garden, one important thing to consider is exposure to sun. Placing your garden on the south or west side of your house is best to maximize the amount of sun exposure. (Remember, the sun rises in the east and sets to the west).

We will use Google Maps to identify possible locations of your garden. Get into groups based on the type of garden you are interested in.

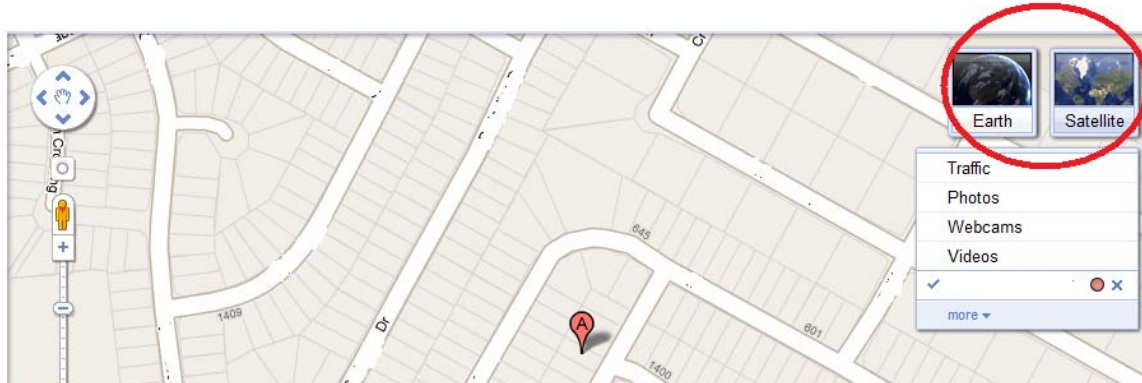
Step 1. Go to markup.io.
Follow directions to place the markup icon on your bookmark bar in your web browser. You will use this at step 5.

Step 2. Go to the Google Maps website (maps.google.com)

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Type in the address of the location where you plan to grow your garden.

- Step 3. In the right hand corner of the maps, click on Earth or Satellite. Viewing your home in the Earth or Satellite View will allow you to determine N, S, E and W.



- Step 4. Once you are in the Earth or Satellite view, use the Zoom tool and Compass tool (on the right side of your screen) to orient your house in an appropriate direction.



- Step 5. Identify a few locations to place your garden. Use the Markup Tool from Step 1 to draw a square or circle around potential area. Discuss this with someone in your group.

- Step 6. Once you have marked up possible locations for your garden on the webpage, email yourself a link of the webpage to reference at home.

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Step 7. When you get home, verify the amount of sun exposure to the areas you want to place your garden. Select an area.

Activity #2: Materials for garden

Now that you have decided what type of garden you want, in your group discuss what you will need to get started. Feel free to use the websites provided to find answers to your questions or use other resources. Good resources outside of class include: someone at a local nursery, family, friends, or neighbors who have a garden.

Guiding Questions for all groups

What type of gardening tools do I need? What types of vegetables, fruits, herbs, flowers am I interested in planting?

Guiding Questions per group

Square foot Garden

How big do you want the garden to be? Do you want to use wood or concrete blocks? Do you want to build the perimeter or buy one that is pre-built? If you are going to build the perimeter, are there any places to get repurposed wood? How do I remove grass and weeds from the area where I want to place my garden? Should I plant a raised garden or in-ground garden?

Container Garden

How many containers do I need? What type of containers is best? How big should the containers be?

Community Garden

How do I organize people in my community? Should I contact my HOA? Should I plant a raised garden or in-ground garden?

In the forum area on the website, begin discussion threads to document additional questions and document questions discussed in class and responses

Tasks to complete by next class meeting

- Decide on location for garden
- Prepare location for garden
- Obtain tools and materials for garden

Optional Meet-up this week – Community Garden

WEEK 2: WHAT, HOW, AND WHEN TO PLANT

Objectives

- Discuss the correct way to select and plant vegetables in 3 varieties of urban garden
- Describe the process and schedule for sewing plant varieties chosen by the student
- Demonstrate the correct way to plant radish seeds

Introduction

The class has already (hopefully) selected where they will be planting. This will narrow down the choices on what can be planted and how they will be able to tend to it.

Class Activities

Status report (10 minutes):

1. Have each student fill in their garden progress chart before coming to class. By now, they should have the “type”, “location”, and “growing style” portions of the chart filled.
2. Have a discussion about the spaces they have chosen for their garden and what they are considering planting. Ask how the gardens in the adventure compare with what they are planning. What would be helpful for them for the gardeners to discuss?

Research activity (15 minutes):

Have the class visit the following links for information about their garden:

What to plant in Austin?

<http://www.main.org/aog/plantcal.htm>

Information about how to plant different kinds of edible plants

<http://www.garden.org/foodguide/browse>

Discussion (10 minutes):

Discuss results. Prompt them about how this research has affected their choice in plants. Direct students with similar plants in mind with specific advice about proper procedures.

Soil Preparation and Demonstration (10 minutes):

1. Start by demonstrating proper techniques for preparing soil and planting using a pot of radishes.
2. Have the “pods” follow your instructions to plant their own radish seeds. Use this opportunity to go around the room and guide students.

Optional Meet-up this week – Local Nursery

Week 3: Maintaining and Protecting the plants

OBJECTIVES:

- Identify the symptoms of an overwatered and underwatered plant
- Make an organic pesticide
- Discuss the appropriate ways to use pesticide

INTRODUCTION

- Have students read trail reports for week 3
- Explain that there are 2 common areas that can be problematic for maintaining plants- watering and pests
- Explain how they handle watering and pest control is dependent on the type of garden they have decided to grow- indoor vs. patio/square foot

ACTIVITY:

Set up 2 stations with instruction cards at each station prior to class and divide class in two groups that will rotate- then you can circulate between them as needed.

STATION 1

- Have 3 pictures of plants that have been labeled

OVERWATERED

(<https://lh4.googleusercontent.com/-0WPzHphJ9Ko/TY3yDOGC4CI/AAAAAAAAAWo/N33xev5-CWI/s1600/DSC01458.JPG> or <http://www.stevegarufi.com/plants2.jpg>)

UNDERWATERED

(<http://henryhomeyer.files.wordpress.com/2011/03/ivy-killed-by-under-watering1.jpg> or http://lh6.ggpht.com/_RPgH1qS55c/S_H61ejuRI/AAAAAAAAADnl/vK7V6pAcckA/DSC00957.JPG)

APPROPRIATELY WATERED

http://img.hgtv.com/HGTV/2010/10/27/RX-DK-HTG26004_3-plant-chard_s3x4_lg.jpg

- Using prior knowledge, current experience with their own plants, and the pictures, students try to identify characteristics that may indicate the problem from the pictures in pairs and then come together to discuss what they observed or as a group, depending on size.
- Flip the pictures over for a list of symptoms for each type of watering and students can compare their answers to the answers on the back of the picture
- Then have students look at actual plants and determine what the problem is

*this requires preparation on the part of the teacher: 2 weeks prior to the class begin overwatering and underwatering a plant for each category to show how different plants present the problem

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- Summarize what the signs/characteristics of an overwatered, underwatered and well-watered plant are.

OR

Watch the video on watering properly (<http://www.videojug.com/film/how-to-properly-water-your-plants>)

STATION 2:

Putting an end to pests

- Read first two paragraphs on using soap-based pesticides/repellants-
<http://www.essortment.com/insect-repellant-tips-making-homemade-insecticidal-soap-51603.html>
- Use the ingredients to make your own pesticide
 - NEED
 - mini spray bottles (ask students to bring their own and have some extra for those who forgot)
 - Dishsoap
 - Vegetable oil
 - Gallon milk jugs (ask students to bring their own and have some extra for those who forgot)
 - Tablespoons and teaspoons (ask students to bring their own and have some extra for those who forgot)
 - On a notecard have the RECIPE:
 - 1 gallon of water
 - 1 tsp of dishsoap
 - 2 tbsp oil
 - Mix and spray!
- Watch video on how to apply pesticide to plants
http://www.ehow.com/video_7953905_apply-organic-pesticide.html
- Read about over-applying pesticide and pesticide burn
<http://plantdiagnostics.umd.edu/level3.cfm?causeID=293>
- Ask them to go on the online environment to share in the forum what they learned and how it will change how they water and apply pesticide to their garden.

Optional Meet-up this week – Online Chat with Master Gardener

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Week 4: Harvesting

OBJECTIVES

- Determine the ideal time for harvesting using their personal garden chart and a chart of vegetable harvests
- Demonstrate the appropriate way to pick herbs

INTRODUCTION

Have the class read the trail reports on harvesting

ACTIVITY:

Continue explaining that harvesting varies between plants and is dependent on when you planted the seeds.

- Have students bring in their garden chart and compare their start time to the chart of plant harvesting found on the **OLE resources page**. Students calculate when they should be ready to harvest each plant they are growing.

*Could group them by type of garden and have them compare what they came up with

- Next bring out a class herb ready to harvest and ask the class what they think would be the best way to pick the plant and ask them to explain their reasoning.

*Requires planning for appropriate timing of harvesting

- Demonstrate picking the plant.

*If possible have enough plants for pairs so they can follow along. Ideally, they have herbs they can harvest along with you. If the student plants are not ready to harvest, at least have them follow along so they can see/find the parts of the plant as you are talking.

- Explain as you harvest:
 - Use sharp scissors when harvesting herbs with woody stems. Tearing at stems will leave ragged edges that can harm the plant and attract disease. Herbs with soft stems can be pinched off.
 - Cut just above a *node* -- the small bump or joint where a stem branches out. New growth is produced from nodes, so by cutting them here, you'll encourage new growth and branching. Even if you just want the leaves, cut the whole stem before stripping away the leaves. Remember to cut long stems if you're planning to hang the herbs to dry.
 - Trim them lightly to promote branching of stems so you'll get a fuller, bushier plant. Once they're established, you can take up to half of the plant at a time without weakening it.
- Explain the importance of washing off the dirt and pesticide

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- Finish by asking the students to post online in the forum when they will be ready to harvest and what they plan on making with their herbs/vegetables once they have harvested.

Optional Meet-up this week – EastSide Café – Local Restaurant that uses products from own garden and local farm.

Other materials

- Three sample plants (can purchase pre-grown plants from nursery or hardware store)

Instructions for sample plants:

Two weeks prior to lesson 3, water Plant A every two days consistently, stop watering Plant B, continue watering Plant C as needed to have samples of overwatered, under-watered and well-watered, respectively.

- Mint and Radishes

Mint and radishes are two very strong plants that grow well in containers and grow rapidly, which is ideal for a classroom experience. You can grow one or both of these materials with your students with the following:

Material to grow in class

- 6" pots (one/student)
- 1-2 packets of Mint and/or Radish seeds
- Potting soil (enough for each pot)

Instructions for mint

Two weeks prior to the start of the course plant seeds according to the instructions here: http://www.howtogardenadvice.com/plant_list/herb/grow_mint_peppermint_spear_mint.html

Instructions for radishes

http://www.kiddiegardens.com/growing_radish_in_containers.html

GARDEN CHART

Type of garden:

Location:

Growing style:

PLANTS	WEEK 1 Dates	WEEK 2 Dates	WEEK 3 Dates	WEEK 4 Dates	WEEK 5 Dates	WEEK 6 Dates	WEEK 7 Dates
<i>Example:</i> Radishes	P1 - 3/28 G - 3/30 W- 4/1	BS - 4/04 W- 4/04 W- 4/10	BS - 4/11 W- 4/13 W- 4/17	W- 4/22 F- 4/23 W- 4/25	H - 4/27		

KEY: P1 = Planting G = Germination BS = Bug Spray W = Watering F = Fertilizing H = Harvest