



Gardening for Beginners

1 - Basic Plant Needs

UCCE Master Gardener Program
Santa Clara County, CA



Welcome to the Gardening for Beginners class. This class consists of 4 sessions, Fridays from 4 to 5:30. Every week, a couple of days before class, you will receive an email that includes:

- an outline of the upcoming class
- a list of resources for further information
- any homework for the following class

Class 1 covers basic plant needs: sun, soil, water, space, place and climate.

Knowing the needs of each plant allows the gardener to be successful by planting the right plant in the right place.

What are the sun, soil, and water needs of the following plants?

- Tomato plant: ____
- Rosemary: _____
- Lemon tree: _____
- Oak tree: _____
- Azalea: _____

Climate

- Our area of California has a Mediterranean climate: Warm, dry summer and cool, wet winter
- USDA hardiness zones: Based on average low temperatures; most of California is zone 9
- Sunset climate zones: Makes finer distinctions, from 1 (coldest) to 24 (warmest); Santa Clara County is mostly zone 14 -17, parts of the Santa Cruz Mountains and Diablo range are zone 7

Sun

- Plants need food like we do, but unlike us they produce it themselves.
- They produce sugar using the water in the soil and the carbon dioxide in the air.
- The sun provides the energy for that process which is called photosynthesis.
- Know where the sun is in your garden.
- The sun is really important! Plant where the sun is (unless a plant loves shade).

Soil

- Soil composition
 - 50% solid (45% minerals + 5% organic matter)
 - 50% space (25% air + 25% water)
- Clay soil
 - Benefits: It retains water and has plenty of nutrients
 - Problems: It is difficult to work: a sticky mess when wet, and very hard when dry
 - With some amendment, clay soil is a very good soil to grow many things

- Compost
 - Decomposed organic matter
 - Used as soil amendment compost will
 - Add space to soil for air and water
 - Provide food for living organisms in soil
 - You can make it, buy it, or sometimes get it for free

- Mulch
 - Layer of material applied to the surface of an area of soil
 - Purposes:
 - Conserve moisture
 - Improve the fertility and health of the soil
 - Reduce weed growth
 - Enhance the visual appeal of the area
 - Avoid soil compaction
 - Keep the soil temperature even
 - Types of mulch:
 - Organic materials (leaves, grass clippings, peat moss, wood chips, bark chips, straw, cardboard...)
 - Compost
 - Rubber (recycled tire rubber)
 - Sheet plastic
 - Rock and gravel

- Plant nutrients
 - The primary nutrients are nitrogen (N), potassium (K), and phosphorus (P).
 - The percentages of these nutrients are found on the fertilizer labels: N-P-K.
 - Typically our clay soil already contains all the necessary nutrients except for the nitrogen. So no need to add potassium and phosphorus.
 - Not all plants need fertilizers; mainly vegetables do

Water

- 90% of a plant is water
- Where does the water go?
 - Used by the plant itself (keeps cells rigid, photosynthesis, ...)
 - Transpired by the plant
 - Evaporated from the soil
- How much to water?
 - The water lost by transpiration and evaporation needs to be replaced
 - Right amount of water depends on the plants. For example a cactus and a water lily do not have the same needs.
- Hydrozone: Group your plants by their water needs (and don't forget their sun requirement!).

Analyze your Garden

- Observe and analyze your garden space
- How does your garden space provide sun, soil, water, climate, and space that plants need?
- See assignment below

Planting a Seed

For next week

Analyze your garden space

- Sketch a rough map of your garden or yard
- Include objects like house, fences, sidewalks, patios
- Sketch in existing trees, shrubs, and hedges
- Mark which way is North.
- Mark where water faucets are
- Observe the sun and shade patterns and mark sunny and shady areas on your sketch.

Plant a seed!

- Watch this video and plant some seeds if you are able:
https://www.youtube.com/watch?v=sxr5B7suE8s&list=PLoEJ_Pj7y9oexf2ZkyjEQ2YsXpWAN2qgd&index=12

References

- Master Gardeners of Santa Clara County: <http://mgsantaclara.ucanr.edu/>
- California Master Gardener Handbook, UC ANR Publication 3382

Resources

- Gardening Resources: ucanr.edu/sites/MGWTest/Resources/_Gardening_Resources/
- Information about pest management:
<http://ipm.ucanr.edu/>
- Home Composting Education Program:
http://cesantaclara.ucanr.edu/Home_Composting_Education/
- Sun chart from University of Oregon
<http://solardat.uoregon.edu/SunChartProgram.html>
- Sunset Western Climate Zones
<https://www.sunsetwesterngardencollection.com/climate-zones/>

Master Gardener Program

Master Gardener program volunteers are trained by the University of California Cooperative Extension. Our mission is to develop, adapt and extend research-based horticultural information and educational programs to the residents of Santa Clara County.

Master Gardener Events

Master Gardeners host and participate in a variety of activities, ranging from in-garden talks and demonstrations to multiple week courses. A full listing is available through our monthly “Tips & Events” email, and on our Website, <http://mgsantaclara.ucanr.edu/events-calendar/>.

Master Gardener Help Desk

- E-mail questions using our website:
<http://mgsantaclara.ucanr.edu/contact-us/ask-a-gardening-question/>
- Call the Help Desk: 408-282-3105 (9:30 a.m. – 12:30 p.m. Monday through Friday)
- Bring specimens to the Help Desk office during hours above:
1553 Berger Drive, Building 1, 2nd Floor, San Jose, CA 954112

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