Small Space, **Big Impact**

*Let’s Talk Gardens!* from Smithsonian Gardens

Presented by: Sylvia Schmeichel, Horticulturist, National Museum of Natural History

**Step 1: Assess Existing Areas**

* Space: length, width, and **height**
* Light provided
	+ Full Sun: 6+ Hours of direct sunlight
	+ Partial Sun/Shade: 3-6 Hours of direct sunlight
	+ Full Shade: 3 hours or less of direct sunlight
	+ Indoors: window direction, additional grow lights, etc.
* Restrictions/ Safety
	+ Check with local HOAs, building rules, your lease agreement, etc. to determine what is safe and allowable. (No one wants a 30-lb terracotta pot filled with geraniums to blow over and fall on a neighbor’s head).
* Access
	+ What is your water source (watering cans from inside, just rainwater, rain barrel)?
	+ Is there an emergency egress, doorways, etc. that you need to keep free?

**Step 2: Style and Usage**

* Private or Shared Space
	+ Private: balcony/porch, fenced in backyard, etc.
	+ Shared Space: community garden, rooftop, building entrance
* Usage
	+ Seating: grilling, entertaining, sunbathing, etc.
	+ Age of family members, pets (Ex. small children/pets and cactus do not mix)
* Style
	+ Casual: cottagey, DIY, “there’s always room for one more plant” style
	+ Formal: topiary, bonsai, clean lines, symmetry
	+ Edibles/Utilitarian: small fruit trees, veggies, herbs
	+ A mixture of these or multiple pockets around your home

**Step 3: Growing Media and Containers**

* Ground Soil (do a soil test, do a soil test, do a soil test!!!!)
	+ Take the guesswork out of it!
		- Soil composition: sand/silt/clay%
		- Potential dangerous heavy metals (important for edible gardening)
		- Nutrient deficiencies
	+ Soil testing info:
		- Internet search using “home soil testing services + your state”
		- <https://extension.umd.edu/hgic/topics/soil-testing>
		- <https://www.soiltest.vt.edu/fees-and-forms.html>
* Container or raised bed gardening
	+ Container gardening: use potting soil specified for what you are growing (flowering annuals, veggies, cactus, etc.)
	+ Raised beds: topsoil/compost (I like a 50/50 high quality topsoil/compost blend for all-purpose use)
* Containers
	+ Always have a drainage hole(s)! (except if you are doing a water/bog dish container)?
	+ Size: How big will your plants be: at the end of the growing season?; ...after 1 year?;… at mature size?)
		- Think about depth, not just width (the deeper and more growing media you have, the deeper the roots can grow the more water holding capacity = less hand watering)
			* Rule of thumb: transplant plants into a container at least 4 inches wider than what its currently in for most herbaceous plants; at least 18” deep for trees and fast-growing veggies (tomatoes, squash, etc.)
	+ Style/ Material
		- Inexpensive/repurposed vs. investment style pieces
		- Winter weather resistant?
		- Plastics: inexpensive $, but only last a season or two
		- Terracotta: inexpensive $, but break easily and dry out quickly in the summer
		- Fiberglass: medium $$, lightweight, more winter-proof
		- Concrete: medium to high $$-$$$, heavy, winter-resistant
		- Glazed ceramics: high $$$, wide range of sizes/colors/styles, heavyweight, vary on winter-resistance, sometimes very breakable
		- U.F.O.s – **U**nfilled **F**ound **O**bject: inexpensive/free $, fun and quirky, can add a different element to your garden space
			* Ex. I planted sedums in the back of a rusty vintage toy truck!
			* Air plants (*Tillandsia*)on driftwood, etc.

**Step 4: Maximize ALL your space**

* Vary pot heights, different sizes and/or put them on pedestals or overturned empty pots
* Stair-step plant stands
* Trellises/arbors/ wire for tall or vining plants
* Hanging baskets, “green walls”, windowsill baskets
* Make room for wildlife (feeders, bird baths, native plants, and habitat houses)
	+ They need our support too!
	+ Food Sources:
		- Native Plants to your area
		- Something blooming throughout the growing season
		- Leave seed heads up through the winter
		- Feeders, regularly filled with appropriate food
	+ Water Sources:
		- Bird Bath
		- Small dish or saucer filled with water
		- \*Tip\*- add Bacillus thuringiensis (aka. Bt mosquito disks) -to your water source to keep mosquitos away, it won’t harm the birds!
	+ Shelter Spaces:
		- Bird House, Bat House, Insect Hotel
		- Leave up plant stalks in winter for nesting materials and overwintering sites

**Step 5: Choosing Plants (the best and hardest part!!)**

* Remember light exposures, size of your space, mature size of plant
* Monochromatic color scheme = calmer “vibes”
* Contrasting/Complementary colors = energetic “vibes”
* Texture/Shape, more interesting if there is a variety of these
* Be in the Zone! USDA Hardiness (Zone 7 for most of DMV)
	+ <https://planthardiness.ars.usda.gov/PHZMWeb/InteractiveMap.aspx>
* “House” your plants together based on their needs.
	+ Cactus will not grow well in a pond,nor a tomato in a desert
	+ Pair together plants with sun/shade and watering requirements
* \*See attached page for plant list suggestions for small spaces\*

**Step 6: Caring for and Enjoying**

* Wind
	+ Balconies/porches/rooftops are extra susceptible to drying out or blowing over
	+ Containerized plants are also susceptible to drying out quickly, physical wind damage, and blowing over
	+ Combat both challenges, by using heavy pots or even weights such as brick, in the base of your pots; water regularly; stake plants for extra support; utilize wires/trellises/zip ties for added support; position plants in a more sheltered corner or against a wall
* Watering
	+ We always recommend doing “the finger test”, stick your finger deep into the soil- does it feel dry or moist?
		- Moist - let it be and continue checking daily until you get a sense of how often the plant needs a drink
		- Dry- water at the base of the stalk where it meets the soil level and water slowly so it can seep down until it starts to drain out the bottom of the pot
* Feeding
	+ There are a wide range of preferences and opinions that vary by gardener:
		- Organic vs. conventional, liquid vs. granular, etc.
	+ The best thing to do is read and research the plants you have. For beginners, try finding plants with similar feeding needs
		- Annuals/veggies
		- Houseplants
		- Cactus/succulents
		- Trees/shrubs
* Support and Staking
	+ Trellising and support lines come in a wide range of strength and materials, but are a great way to add BIG IMPACT to a small space
	+ Not only do they help keep the plant upright, supports can also provide screening and privacy to small spaces.

**Step 7: Winterizing**

* When container gardening, the pot and its contents will typically be colder than the ground soil so there are some points to note:
	+ If a plant is only hardy to your zone and, is in a container, it might not survive the winter. So, you have three options:
		- Treat the tender plant as an annual and let it die in the winter
		- Cover and insulate the pot and plant (bubble wrap/burlap)
		- Move the tender plants inside (basement, garage, or storage space) for the winter to go dormant

**Further Resources:**

A Few Books:

* Small-Space Container Gardens: Transform Your Balcony, Porch, or Patio with Fruits, Flowers, Foliage and Herbs by Fern Richardson
* Urban Garden Design: Transform your outdoor space into a beautiful and practical escape by Kate Gould
* How to Window Box: Small-space Plants to Grow Indoors or Not by Chantal Aida Gordan and Ryan Benoit
* Gardener’s Guide to Compact Plants: Edibles &Ornamentals for Small-Space Gardening by Jessica Walliser
* Container Vegetable Gardening: Growing Crops in Pots in Every Space by Liz Dobbs with Anne Halpin

Online resources:

<https://ext.vt.edu/lawn-garden/home-vegetables.html>

<https://themicrogardener.com>

<https://www.seedsavers.org/small-space-garden>

<https://www.apartmenttherapy.com/collection/gardening>

<https://www.gardendesign.com/trees/espaliers.html>

<https://www.pinterest.com>

* key word searches: “small space gardening” “urban gardening” “dwarf plants” “compact gardening” “apartment gardening” “container gardening” “rooftop gardening” “balcony gardening” “windowsill gardening”

**Small Space, Big Impact Plant Suggestions**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sun/Shade Needs** | **Common Name** | **Scientific Name** | **Notes** |
| Full Sun | Okra | *Abelmoschus esculentus* ‘Red Burgundy’ | Annual |
| Full Sun | Dwarf Japanese Maple | *Acer palmatum* var. *dissectum* ‘Tamukeyama’, ‘Crimson Queen’, et al. | Perennial- woody |
| Full Sun | Hyssop (smaller) | *Agastache* 'Black Adder' or ‘Apache Sunset | Perennial- Woody |
| Full Sun | Agave | *Agave parryi*; *Agave* ‘Blue Glow’ et al. | Perennial/Houseplant- herbaceous |
| Full Sun | Aloe | *Aloe vera* | Perennial/Houseplant- herbaceous |
| Full Sun | Butterflyweed | *Asclepias tuberosa* | Perennial- herbaceous |
| Full Sun | Ponytail Palm | *Beaucarnea recurvata* | Tropical, Houseplant |
| Full sun | Cannas | *Canna* sp. | Annual |
| Full Sun | Peppers | *Capsicum annuum*(sweet, hot, or ornamental) | Annual |
| Full Sun | Squash and Melons | *Cucurbita pepo; C. maxima; Citrullus lanatus* et al. | Annual |
| Full Sun | Artichoke | *Cynara cardunculus* | Annual |
| Full Sun | Fig (dwarf) | *Ficus carica* ‘Little Miss Figgy’- dwarf | Perennial- woody |
| Full Sun | Strawberry | *Fragaria* sp. | Perennial- herbaceous |
| Full Sun | Dwarf Ginkgo | *Ginkgo biloba* ‘Troll’ or ‘Chi Chi’ | Perennial- woody |
| Full Sun | Daylily | *Hemerocallis* sp. | Perennial- herbaceous |
| Full Sun | Hops | *Humulus lupulus* | Annual |
| Full Sun | Junipers (prostrate versions) | *Juniperus squamata* ‘Blue Carpet’; *Juniperus horizontalis* ‘Wiltonii’ (and many more) | Perennial- woody |
| Full Sun | Birdhouse/Bottle/Calabash Gourds | *Lagenaria* sp. | Annual |
| Full Sun | Lavender | *Lavandula x intermedia* ‘Phenomenal’ | Perennial- tenderwoody |
| Full Sun | Native Honeysuckle | *Lonicera sempervirens* | Perennial- woody |
| Full Sun | Determinate tomatoes | *Lycopersicon esculentum*‘Bush Beefsteak’ ‘San Marzano’ ‘Roma’, ‘Tumbler’ ‘Windowbox’, ’Zebra Cherry’ and more | Annual |
| Full Sun | Columnar apple  | *Malus* ‘North Pole’ | Perennial- woody |
| Full Sun | Apple (dwarf) | *Malus* sp. Var.- ‘Liberty’, ‘Empire’ and more | Perennial-woody |
| Full Sun | Banana, dwarf | *Musa* ‘Truly Tiny’ | Tropical/Houseplant |
| Full Sun | Bananas | *Musa acuminata ‘*Dwarf Cavendish’\*more dwarf ornamental var. | Annuals (some overwinter) |
| Full Sun | Basil | *Ocimum basilicum* | Annual/Houseplant |
| Full Sun | Thornless Prickly Pear Cactus | *Opuntia ellisiana; O. tuna; O. humifusa* | Perennial- herbaceous |
| Full Sun | Parsley | *Petroselinum crispum* | Annual |
| Full Sun | Beans | *Phaseolus vulgaris* (many varieties) | Annual |
| Full Sun | Mugo pine dwarf | *Pinus mugo* ‘Teeny’ or ‘Pumillo’ | Perennial- woody |
| Full Sun | Pomegranate (dwarf) | *Punica granatum* var. *nana* | Perennial- tender woody |
| Full Sun | Radish | *Raphanus sativus* | Annual |
| Full Sun | Dwarf Rose | *Rosa* ‘Roxy’ | Perennial- Woody |
| Full Sun | Rosemary | *Rosmarinus officinalis* ‘Arp’ | Perennial- tender woody |
| Full Sun | Texas sage, hummingbird sage | *Salvia coccinea* ‘Lady in Red’,’Forest Fire’, ‘ Summer Jewel Series’ | Perennial- tender woody |
| Full Sun | Sage | *Salvia officinalis* | Perennial- tender woody |
| Full Sun | Western Redcedar | *Thuja plicata* ‘Whipcord’ | Perennial- woody |
| Full Sun | American cranberrybush | *Viburnum opulus* var. *americanum* | Perennial- woody |
| Full Sun | Yucca, Adam’s Needle | *Yucca filamentosa* ‘Color Guard’ | Tropical/Houseplant |
| Full Sun to Part Shade | Elephant Ear | *Alocasia* sp. | Annual |
| Full Sun to Part Shade | Dwarf Juneberry, Servicebery | *Amelanchier* ‘Standing Ovation' or *Amelanchier alnifolia* vars. | Perennial- woody |
| Full Sun to Part Shade | Arkansas Bluestar | *Amsonia hubrichtii* | Perennial- Herbaceous |
| Full Sun to Part Shade | Taro, Colocasia | *Colocasia* ‘Tea Cups’ | Perennial- tender/Annual (herbaceous) |
| Full Sun to Part Shade | Slender Deutzia | *Deutzia* ‘Chardonnay Pearls’ | Perennial- woody |
| Full Sun to Part Shade | Dwarf panicle Hydrangea  | *Hydrangea paniculata* ‘Jane’ -™ Little Lime | Perennial- woody |
| Full Sun to Part Shade | Passionflower | *Passiflora incarnata* (native);*Passiflora coccinea* (tropical) | Perennial- herbaceousTropical/houseplant |
| Full Sun to Part Shade | Japanese Pieris Dwarf | *Pieris japonica* ‘Prelude’ | Perennial- woody |
| Full Sun to Part Shade | Blueberry | *Vaccinium corymbosum* | Perennial- woody |
| Full Sun/ Part sun | Lettuce | *Lactuca sativa* | Annual |
| Full to Part Sun | Dwarf St. John’s Wort | *Hypericum calycinum*, *Hypericum* ‘Hidcote’ | Perennial-woody |
| Part Shade | Japanese Forest Grass | *Hakonechloa macra* ‘Aureaola’ | Perennial- herbaceous |
| Part Sun to Full Shade | Sedge | *Carex pensylvanica*; *Carex eburnea* (both native) et al. and non-native *Carex oshimensis* ‘Everillo’ et al. | Perennial- herbaceous |
| Part Sun to Full Shade | Dwarf Fothergilla | *Fothergilla* *gardenii* ‘Mt. Airy’, ‘Blue Shadow’ | Perennial- woody |
| Part Sun to Full Shade | Coralbells, alumroot, heuchera | *Heuchera* sp.  | Perennial- herbaceous |
| Part Sun to Full Shade | Hosta | *Hosta* sp. (many varieties) | Perennial-herbaceous |
| Part Sun to Full Shade | Ferns (soooo many!!!) | *Matteuccia struthiopteris* , *Osmundastrum* sp.; *Athyrium* sp., Et al. | Perennial and Annual-Herbaceous |
| Part Sun/Shade | Fatsia | *Fatsia japonica* | Perennial - herbaceous |
| Part Sun/Shade | Cranberry | *Vaccinium macrocarpum* | Perennial- woody |
| Part to Full Shade | American Ginger | *Asarum canadense* | Perennial- herbaceous |
| Part to Full Shade | Dragon Wing Begonia | *Begonia* ‘Dragon Wing Red’ | Annual/Houseplant |
| Part to Full Shade | Climbing Hydrangea | *Hydrangea anomala* subsp. *petiolaris*  | Perennial- woody |
| Part to Full Shade | Coleus sp. | *Plectranthus scutellarioides* var. | Annual/Houseplant |
| Part to Full Shade | Indian Pink | *Spigela marilandica* | Perennial- herbaceous |

o Full Sun (6+ Hours of direct sunlight)

o Part Sun/Shade (3-6 Hours of direct sunlight)

o Full Shade (3 hours or less of direct sunlight)

o Indoors (window direction, additional grow lights, etc.)