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**Worcester Roots Project
and Toxic Soil Busters Co-op
present:**

A

Landscape Design Resource

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July 2013

www.WorcesterRoots.org

Raised Beds

Gardening in **raised beds** is a completely safe way to raise a healthy garden while keeping it away from toxins in the soil (such as lead), as well as keeping the garden contained and neat.



What is a raised bed? Raised- bed gardening is a form of gardening in which the soil is formed in 2-4 foot wide beds, which can be of any length or shape (usually rectangles). The soil is raised above the surrounding soil and is enclosed by a frame made of wood, rock, or concrete blocks, and may be enriched with compost.

Tips

- Build your raised bed in an area where it can receive maximum sunlight
- Space the plants out evenly with enough room. Because the bed is a confined space, you want to make sure the plants have enough room to spread their roots
- On sunny days where the sun may scorch the leaves, water the soil and try to avoid touching the water to the leaves. This will keep them from burning
- Never walk on the soil; it will make it too compact
- Mulch after planting- it will reduce the amount of weeding



Landscaping Themes

Landscaping can be really fun when you pick a **theme** to design the overall look of your yard! Themes can go anywhere from **beach**, to **zen**, to **country** styles. It all depends on what you find excites you the most, and suits your yard the best.

When picking your theme, it's good to keep in mind cost and maintenance. There are plenty of ways to keep your theme cheap while making it beautiful. Here are some simple and easy ways to start up your theme without going broke:

- **Yard sales-** yard sales tend to supply a great amount of decorative lawn ornaments that can suit specific themes
- **Perennials-** permanent flora can keep your budget low as you only need to buy it once
- **Reuse-** try reusing old furniture, wood, etc. they make for great DIY projects and decorations

The following pages have great landscaping theme ideas. Which one do you like the most?



Secret Garden

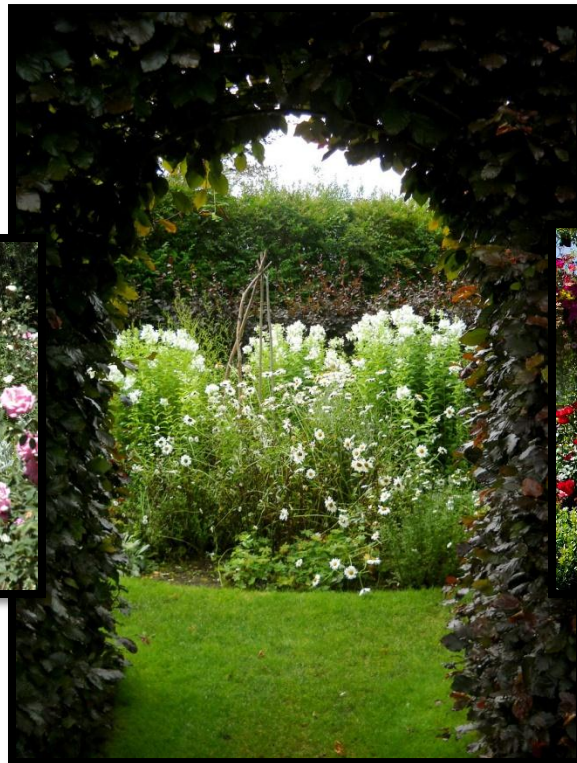


A great way to add **beauty** and characteristic to your yard is by adding the feel of a secret garden. Beautiful **soft colored** flowers and shrubs along with **vibrant roses** give that feeling of a fairy tale like environment. Homes with lots of shade and overhanging trees or bushes fit very well into this theme for the shade of the surrounding trees and shrubs add to the secrecy of the garden.

Decorations- focus on items like gazing-balls, fountains, bird baths, and chimes. Reflective items add to the magical feel of a secret garden, while concrete objects like statues or bird baths add to the olden, romantic style of a secret garden. If possible, use a trellis arch as an entry way into your secret garden.

Edging- concrete or large stones

Walkways- use slabs of stones separated by a few inches for a beautiful and easy path around your yard. Plan on having guests over? Adding a concrete stone patio is the perfect way to add the theme while giving you an outdoor area to sit and enjoy the view.



Zen theme

Some prefer a more peaceful and serene theme for the yard without the hassle of planting a billion flowers and shrubs in their yard; a Zen theme. “Zen” is a form of Buddhism that displays meditation, peace and intuition. These elements are used to represent this Asian inspired, garden theme. The result of a Zen themed yard can create a very relaxing and calming feel.

Zen garden tips:

- Add a **rock garden** by laying down a bed of sand and gravel and placing larger rocks throughout it. Choose sand and gravel that is gray, beige or white and darker rocks for contrast.
- **Hardscape elements** reinforce the style while keeping down the maintenance of a garden. A wooden fence with a minimalist detail at the top emphasizes the Asian influences in this garden.
- In place of hard-to-please plants, garden ornaments fill in gaps in a landscape, like **small statues**.
- Various **low-to-the-ground green plants** reinforce the clean lines of the garden. Try using short to mid height evergreens to add height variance around the yard, (very low maintenance plants!) Bonus? Fewer plants also equal less daily tending of the garden.
- **Dark hemlock** or **black mulch**, retains water, and keeps down weeds, which reduces the need for upkeep.
- **Water** is also a key part of Zen themes, so if possible, install a small koi pond (or just a pond alone) or add a small trickling waterfall!
- **Paths**: stepping stones or small wooden bridges
- **Seating** areas: a simple concrete bench as shown below is easy to make and fits the theme perfectly!



Problem Area Tips

Let's face it, nobody's yard is perfect! The proceeding pages will give tips on dealing with weeds, bare spots, swampy areas, and protecting your garden from animals.



Dealing with... Bare spots

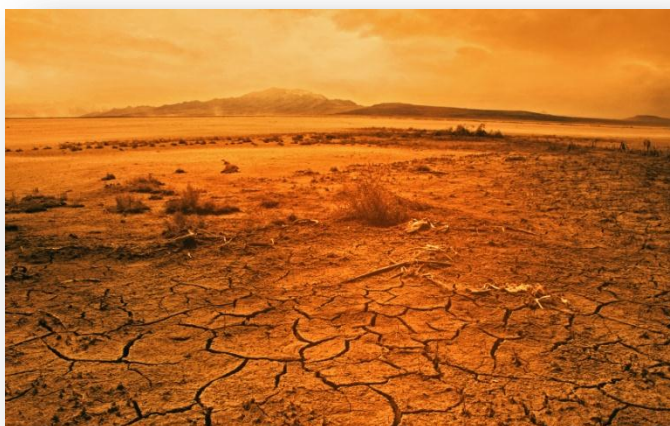
If your yard has a bare spot where grass seems to have trouble growing, try using grass seeds to replant the area, they are affordable and very efficient.



Tips:

- Don't walk on the area that has just been seeded for at least 2 weeks
- Re-water the area every morning if the soil looks dry on top
- If you are lacking sun exposure on the bare areas, there are specific brand grass seeds that can work with this problem

Grass seeds are useful and are easy to spread, so if your yard looks a little like this...



And you would like it to look more like this...
Use grass seeds!!!



Dealing with...Weeds

Weeds are essential to keep out of your gardens as they end up competing with your plants for nutrients, water and sunlight. While possibly ruining the effect out of a display or theme in your yard, they also take up valuable planting space. To avoid the meticulous weed plucking, we use preventative measures that last for years:



Landscaping fabric and mulch

- **Landscaping fabric** is a durable thin cloth that can be placed over soil to block weeds from growing. It can be cut using scissors to fit the shape of wherever it needs to be. The fabric lasts for years and can be used as a great preventative measure of future weeds.
- After putting down landscaping fabric, topping it with mulch really seals the deal. The combination of mulch and landscaping fabric helps to better retain water and nutrients for your garden/ plants. By blocking out the sun and covering the soil, they work together to keep out weeds.

Tip: Cut an “x” into the landscaping fabric where it happens to lay over a plant. After you cut the x, gently put it over the plant and pull up the plant’s leaves and stems until it is fully visible.

Using landscaping fabric and mulch instead of chemical products is a much safer choice. Chemical products like weed killers and pesticides are toxic for the soil and can lead to hazardous runoff.



Dealing with... swampy areas

Dips in yards tend to lead to **swampy** areas as they **retain** all the rainfall from around the yard, like a puddle. As stated before, there is always the option of using a rain garden to not only add aesthetics but help take up all the moisture through plants. However, if a rain garden just isn't an option for you, you can always try a simple underground pipe that can redirect the water to an area that could use more of it, like a garden.

Drainage pipe tips:

- Make sure the pipe is buried so that the top is 6 to 8 inches below ground level.
- Add pebbles below the pipe and along the dugout trench.
- Wrap the pipe in landscaping fabric to ensure that dirt doesn't get into it
- Once the pipe and pebbles are set into the trench, top it with pebbles (limestone)
- After the stones are added, you have the option to put the previously removed sod back onto the area that was dug out for the trench so that it looks more finished.

Using a drainage pipe to redirect water build up can be a great way to recycle the water, whether it be from the gutter or a swampy area, and to use it instead for a garden- think of different places to redirect the water that would **benefit** your yard the most.

WARNING: Whenever you plan on digging into the ground, call "Dig Safe" (811) to make sure it is safe to do so. Not only is it the law, but it will ensure a safe home improvement project by making sure you don't accidentally dig into pre-existing features that could harm others in your community. Calling is free.



Dealing with...**animals** and your garden

Well unfortunately, your garden is so beautiful or so scrumptious that animals and pests seem to always try eating from it whenever you're not looking. Instead of going crazy and wishing to do evil things to those animals, try using some of these safe tips to prevent them from eating from your garden.

Tips:

- **Hair.** Yes I know it's weird, but it works. Go to your local hair salon, and if they allow it, have them give you any unprocessed hair clippings. By putting hair into your garden's soil, it adds great nutrients, and wards off animals as they will smell and sense the human hair.
- If you're more into traditional ways, try using a **fence** (chicken wire) that surrounds your garden. This will keep smaller animals from chipmunks to rabbits from getting into your garden.
- **Mesh/netting**- using very light mesh or fine netting, you can simply place it over your plants like a tent and secure it to the ground. This is great for keeping birds from eating berries in your garden, and animals have a difficult time getting into it.
- **Marigolds**- using the plant "marigold", you can ward off not only small animals, but also insects. Its scent keeps them away. Place multiple marigolds around your garden.



Finding the Right Plants for You

Not every plant fits every home, and that's what makes your individual landscaping so unique. Picking out plants should fit your specific needs, wants and capabilities.

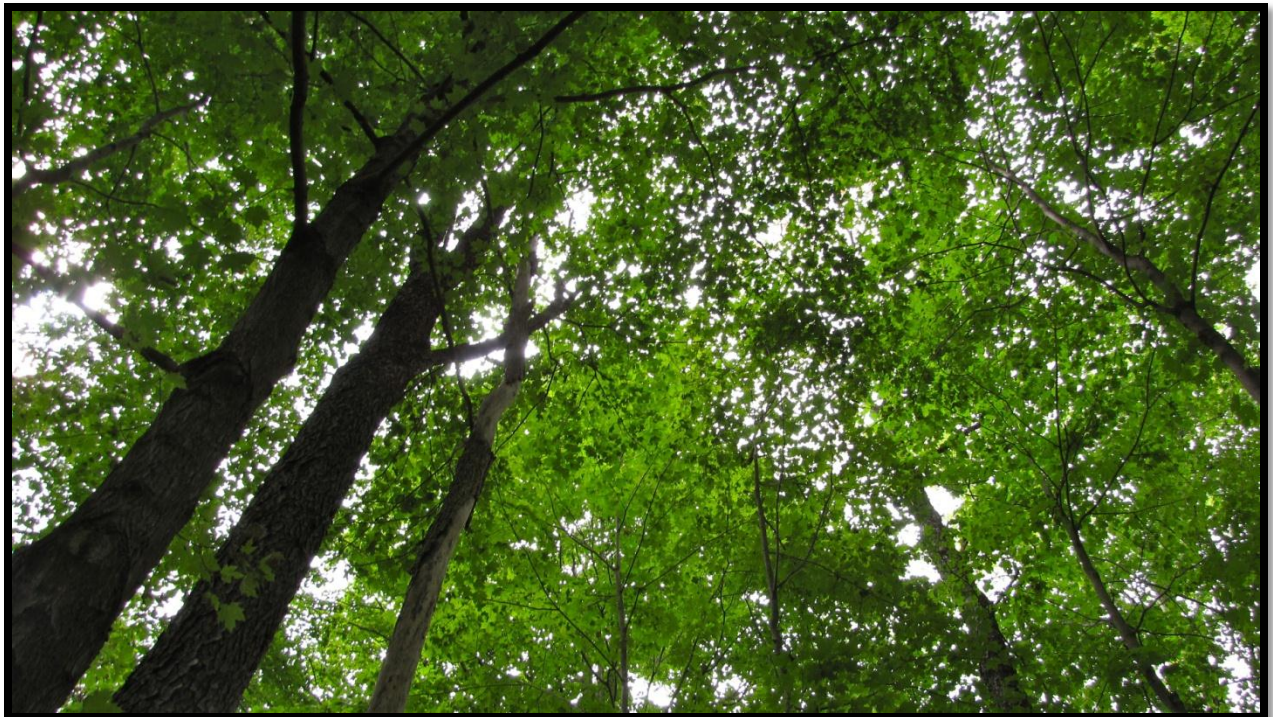
Various factors make up what specific plants are right for you:

Shady

High Sun Exposure

Partial Shade

Lack of time/capability to tend to your yard



Shady

In areas where trees and leaves seem to be covering almost the entire visible sky above your yard, little or no direct sunlight reaches the ground. Though few plants seem to thrive in deep shade areas, there are lots of other foliage options. Focus more on plants with beautiful leaves or a unique form.



Plants:

- western maidenhair fern
- western wild ginger
- beesia
- deer fern
- golden elaeagnus
- golden variegated fatshedera
- Japanese fatsia
- common oak fern
- hybrid sweet olive
- evergreen redwood sorrel
- sweetbox

Sun Exposure/light shade

Very little shade areas offer conditions for the broadest range of plants to thrive. By receiving roughly four to six hours of direct sunlight every day, the following plants are able to flower more than many other plants.

Plants:

- paperbark maple
- Japanese maple
- bottlebrush buckeye
- white wood aster
- tatting fern
- ghost fern
- milky bellflower
- Serbian bellflower
- hybrid epimedium
- willow gentian
- hybrid witch hazel
- hosta
- climbing hydrangea
- mophead hydrangea
- panicle hydrangea
- brass buttons
- Oyama magnolia
- creeping forget-me-not
- pieris, lily-of-the-valley shrub



Partial Shade

Partial shade plants receive about two to three hours of sunlight through the branches of the trees above. Because of the low sun intensity, flowering tends to be reduced amongst partial shade plants, but picking the right design and plants can lead to creating a beautiful woodland garden.



Plants:

- cutleaf vine maple
- black snakeroot
- Jack-in-the-pulpit
- mouse plant
- umbrella leaf
- evergreen Solomon's seal
- umbrella bamboo
- black bamboo, blackstem bamboo
- sword fern
- Japanese tassel fern
- longleaf lungwort
- coast redwood
- zig-zag bamboo
- Sargent's weeping hemlock

Lack of time/capability to tend to your yard

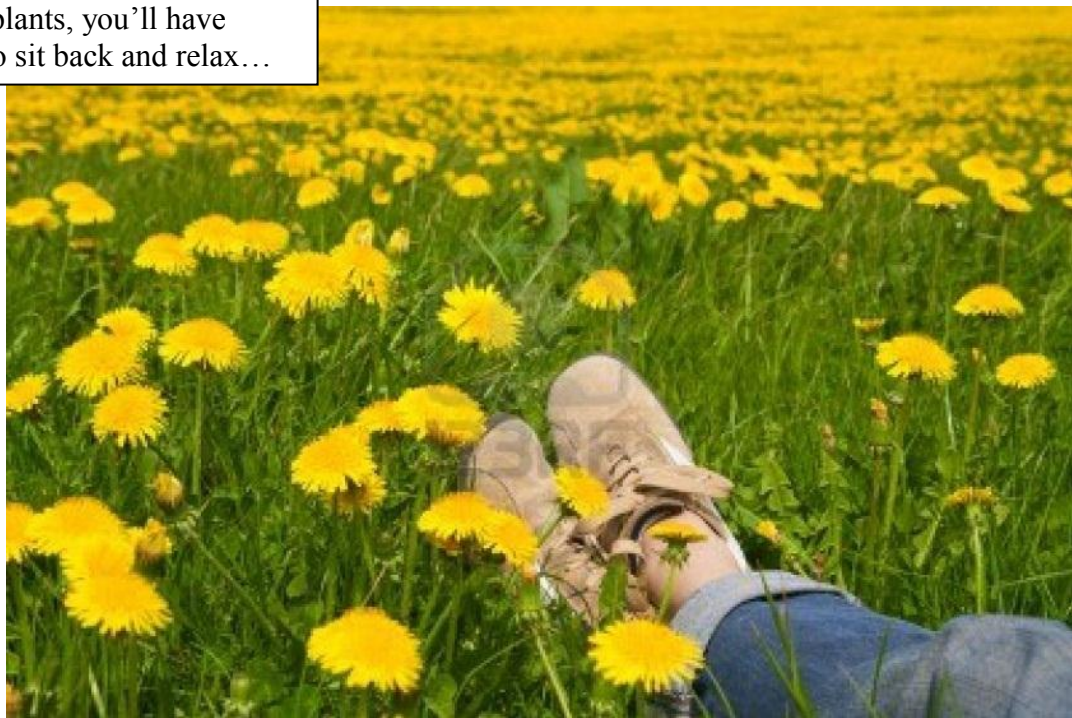
If you're busy or just don't plan on tending to your garden too often, there are plenty of gorgeous plants that require little to no care whatsoever:

Plants

- Velvet cloak smoke tree
- Jules Verne peony
- Winter king hawthorn
- Variegated ribbon grass (strawberries and cream)
- Burgundy carousel Japanese barberry
- Elijah Blue Fescue
- Thornless common Honeylocust
- Grey Owl Juniper
- Rose Glow Japanese Barberry
- Avalanche Feather Reed Grass
- Bloody Cranesbill
- Firewitch Dianthus
- Endless Summer Hydrangea



With these plants, you'll have more time to sit back and relax...

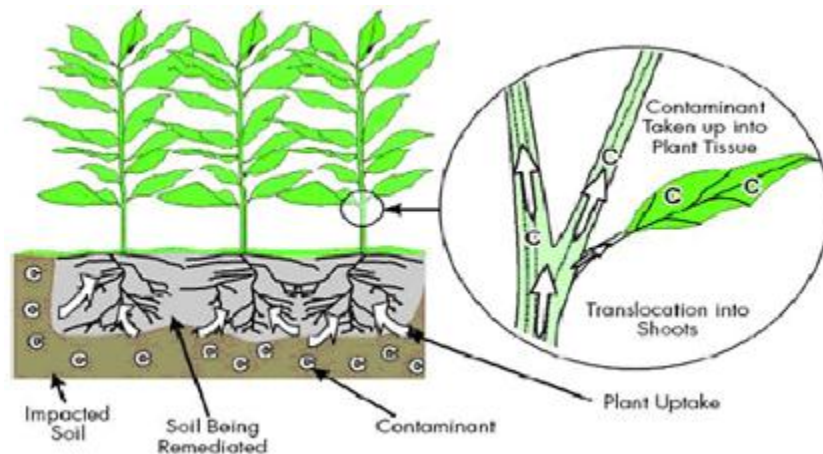


For more plants, refer to: <http://www.pacifichorticulture.org>

Phytoremediation

Phytoremediation is a process used to take toxins, such as lead, out of the soil and into a plant instead. Certain plants like sunflowers, Zea mays, or mustard plants are capable of taking up heavy metals through their roots. Over time, these plants can **reduce** the levels of metal toxins in the soil, **safely**, **cheaply**, and **affectively**. After a while, the plant is then safely removed, discarded of, and replaced.

MORE INFO: www.worcesterroots.org/calendar-of-events/safe-soil-materials/



Here are a few examples of plants to be used for Phytoremediation:

Fruit of Brassicaceae



Helianthella sp.



Zea Mays



Yellow Mustard flower



Sunflower



Edging



Edging is a fairly inexpensive process of creating defined **borders** using bricks, stones, or other materials. While edging adds a constant “freshly groomed” look to your yard, it also works as a functional barrier to keep out stray grass, form **clean** lines in the yard, define a garden, or to keep others from walking in the area. When dealing with toxic soil, edging can be a great way to keep the toxic area appealing while keeping others from walking on the soil.

Common Types

Brick



Stone



Wood



Styles

Edging can be made in specific styles that meet the homeowner’s unique taste. While certain materials may give off different feels (for example, wood might give off a beachy theme), the lines made by the materials can also differentiate in style. Some might like their boundaries **curvy...**



While others might go for **straight and clean**

Mulch



Mulch is a type of material that is spread out over the soil of a specific area in the yard. While it helps to **retain** moisture in the soil and plants, it also helps to **eliminate** weeds, and possibly add to the soil's **fertility**. Mulch is a great time saving measure for the any gardener, and makes the yard look much more attractive whether it's by its pop of color or **clean** look.

Common Types of Mulch

Pine



Cedar



Hemlock



Red



Black



Brown



Tips

- If you're looking for more **organic** options that can help to fertilize your soil, try these: shredded leaves, grass clippings, shredded newspaper, compost, straw and hay
- Line the soil with landscaping fabric before applying mulch- it will help to better lock in moisture while helping to get rid of weeds.

Patios

A **patio** is a paved outdoor area, commonly used for an outdoor sitting area, or recreational area. However a patio can be more than a place for a table and chairs; it can give your family and friends a beautiful area to gather, enjoy meals, and spend time together. Patios are excellent ways to utilize a toxic soil area, and cover it up while using the space for maximum potential.

Common Materials

Stone



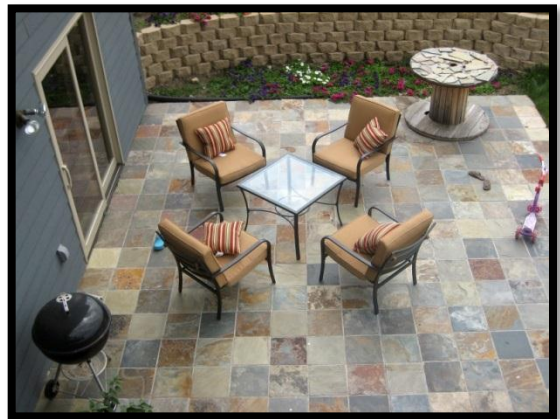
Concrete Pavers



Brick



Tile



Rain Garden

Many yards have **water build up** in areas of the yard due to drops in elevation. Water build up can create unwanted puddles and muddy land. One way to fix these problems in an aesthetically pleasing way would be to create a **Rain Garden**.

A Rain Garden is a planted depression or a hole that allows rainwater runoff from impervious urban areas, like roofs, driveways, walkways, parking lots, and compacted lawn areas, the opportunity to be absorbed using heavy water absorbing plants. With these specific plants, rain gardens can fix water build up while adding a beautiful garden to the yard.

Types of Plants Used:

Sunflowers



Wintergreen



Late Lowbush Blueberry



For more plant ideas, visit <http://www.uri.edu/ce/healthylandscapes/raingarden>