Garden in a Coffee Cup

This is an easy project that doesn't take much space or effort. It also offers a great deal of versatility and the opportunity to grow a lot of different plants, including herbs, vegetables, house plants or even an ivy topiary. This coffee mug planter makes a great gift for friends, family members and total strangers. It has been used as a fundraiser.

Materials needed:

1. 1 coffee mug filled with fresh brewed coffee to enjoy while you are doing this project.
2. 1 empty coffee mug, carefully selected from a yard sale, thrift store or your closet. Choose one that you find beautiful, humorous, unique or cheap.
3. Sufficient moist high quality potting soil to fill your coffee mug. Don't use the cheap soil found at you friendly neighborhood discount store. That stuff is an insult to weeds.
4. 1 to 3 cuttings or started plants, your choice. You can also use seeds. Experimenting is fun. Any failures can become compost.
5. Colorful stones or gravel, sufficient to cover the soil.
6. A silk flower or whimsy item of your choice. (Dollar store shopping trip)
7. A sunny windowsill.
8. A well developed sense of humor.

Plants that will do well in a coffee mug

Best choices: Jade, Aloe, Spider Plant (these are safe, rugged and easy to start from cuttings)
Herbs like mint, chives, basil or parsley work well, from seed or young plants
Vegetables like lettuce, radishes, spinach, onion sets
Flowering houseplants such as African violets, peace lilies, rex begonias and geraniums
Vining plants including philodendron, English ivy, hoya and Swedish ivy
Plants with colorful or interesting leaves like coleus, jade plant, Christmas cactus, sansevieria
Seeds that enjoy growing in a coffee cup: any citrus, chile, dandelions, marigolds, pine & juniper

Putting it all together:

Before you begin, have a sip of coffee from the coffee mug you aren't going to use as a planter.

1. Make certain your coffee mug planter is clean then spread paper on the work surface.

2. Now is your opportunity to become creative and artistic. You can add stickers, glue lace, ribbon, used postage stamps, photos or pictures cut from a magazine to the outside of your chosen coffee mug. Then you can spray coat with a protective sealer. If you do this you are creating a work of art, or making a statement.

3. Fill the coffee mug planter with the potting soil and firm lightly so that soil is about 1/4" below the rim of the mug, to allow for easy watering .

4A. If you are using seeds, evenly space a few (at least three) seeds and press into the soil to a depth approximately twice the thickness of the seed. Cover the seeds well, wipe your hands on your shirt and have another sip of coffee to celebrate a job well done.

4B. If you are using cuttings or small started plants it gets a lot more complicated. Raise your right hand (you can substitute the left if you insist) and hold up your thumb. Now rotate your hand so that the thumb is pointing down. Then press that thumb as deeply into the soil as you can. This makes a suitable hole your cuttings or rooted plantlets can occupy. If you are planting 2 or more cuttings you can either make the hole larger and plant them all together, or you can make separate holes. Then put the plantlets or cuttings in the hole and pack the soil firmly round them.

5. Now add 2-3 tablespoons of water to the coffee mug containing the cuttings, plants or seeds.

6. Next you can take a handful of colored stones and cover the top of the soil. You can substitute sand, or any other material you like.

7. As a finishing touch, add a colorful silk flower, or a whimsy of your choice.

8. Place on a sunny windowsill and water lightly about twice a week, if the soil seems dry or the plant begins to wilt.

Care and Feeding of Your Garden in a Coffee Cup

1. Light: Most of the plants you will be growing in your Coffee Cup will enjoy a sunny windowsill. African violets and many other common house plants prefer an eastern or northern exposure.

2. Watering: This can vary with the plants you are growing. Because there is no drainage it is best to avoid too much water. Best to maintain moist soil for most plants. You are probably not growing swamp weeds in your coffee cup planter so it's best to use a moisture meter, or use your 100% digital moisture indicator (commonly called a finger). Some suggest you to let the plant tell you when it's thirsty by wilting. Unfortunately a plant will also wilt when the soil is so moist the roots have drowned. Frequency of watering will vary with the humidity, temperature maintained in the room, the drinking habits of the plants you are growing and the type of soil you are using. 1-2 times a week is usually all that is needed.

3. Feeding: You can feed with a half strength solution of a mix such as Miracle-Gro for indoor plants no more than once a month. When your plants eat too much and exercise too little they may become obese and bugs delight in dining on fat plants.

4. Problems: This will vary with the plants you are growing. Over watering is the most common problem, with over feeding second. The common insect problems include mealybug, white fly and spider mites. There are organic sprays that are safer than most of the chemicals. A cotton swab dipped in rubbing alcohol can be used to remove these critters. We have been told that brandy or rum also works, but this may have been for the gardener's benefit, not the plants.

5. Maintenance: The best advice is to spend some time with your garden in a coffee cup every day. Talk with the plants. They enjoy conversation and it brightens their day. This also gives you an opportunity to look for the SURPRISE. You may discover a new leaf, a flower bud forming, or a bug setting up housekeeping. You may notice leaves drooping and sad, perhaps even

becoming dry around the edges, or developing a peppering of dots that can tell you spider mites are present. Regardless of what you find with this daily routine, any problem can be solved before it becomes major. When you can have a friend over for a cup of coffee seize the opportunity to show off, and talk about your coffee cup plants.

6. Life of this project: Eventually you plants are going to need a new and larger home than a coffee cup. This can vary from a matter of months to several years, depending on what you are growing in that coffee cup. When it looks like it is becoming cramped it's time to shop for a new home. Be creative and use "found containers."

Adapted from ***Windowsill Whimsy, Gardening and Horticultural Therapy Projects for Small Spaces*** by Hank Bruce & Tomi Jill Folk

What Can You Do With An Old Shoe?

Creative energy flows best when we are smiling, comfortable with ourselves and in an environment that stimulates our senses. Isn't this what the garden gives us? We need to wear our creativity like an old shoe. In fact, that's what this project is all about, old shoes and creativity.

Objective: Creative expression. This is achieved by turning an old shoe into a unique work of art that will serve as a planter for at least one live plant.
Season: Can be initiated at any time of the year.
Time required to create: Because this project is done in stages it can take several days or weeks to create, and, because we are dealing with living plants, it may never be completed. After the artwork, after the planting comes the nurturing.
Life span: It's considered short term, but can last for years with proper care and rugged plants. So many variables depending on the plants used.
Who benefits: Everyone, including residents who aren't participating in the program. Family members, staff and entire community can be involved and will usually either smile or laugh out loud.
Skills required: very flexible. Most important is a sense of humor. Suitable for active or passive participation. This can be a group project.
Goals for participants: socialization, sensory and memory stimulation, decision making, motor skills, coordination, creativity and artistic expression.
Activities involved: Widely variable, ranging from painting a shoe to gluing lace, beads, silk flowers or anything else the imagination and the law allows. Planting and nurturing the live plant(s). Helping each other.

Secondary craft and gardening projects:
Entry in a Flower Shoe, (a unique flower show)
Bootquets can be created from plastic boots and used as light-hearted vases
Participants can take part in the set up and operation of the show
The decorated and planted flower shoes can be offered for sale in gift shop.

A flower shoe is simply an old shoe that a creative mind has transformed into a work of art that serves as a home for a favorite plant. These can be used by the artist who made them, or it may be a gift, or you can host a "Flower Shoe." This can be as simple or complex as time and talent allow.

What do you need before getting started?

- An over-active imagination.
- An old shoe, boot slipper or other footwear is essential.
- Paint, decorations, stickers, glitter, wiggle eyes, lace and ribbon, miniature figurines and anything else you can think of. Often when a need is stated, someone else in the group will have just such a treasure available.
- Creativity, and the freedom to be creative make this an empowering opportunity.
- Small plants to put in the shoes. Participants can be encouraged to start plants ahead of time or make a field trip to a garden center.
- Saucers or plastic plates to set the entries on to prevent water stains and water on the floor.

Thoughts before the artists are set free

1. Have a model or two to show, along with several photos.

2. A creative project like this is an opportunity for the individual participants to make decisions, express their creativity and be empowered. Making decisions is empowering.

3. Determine before you begin, if this will be a cooperative or individual project, or both. Often when two or three individuals function as a team there can be the added benefit of socialization and increased interaction.

4. Staff members and volunteers need to give the participants as much freedom to express themselves and experience the creative value of problem solving. If we make all the decisions and solve all the problems, then we have made the participant nothing more than a spectator.

5. Encourage and compliment often, but avoid correcting, criticizing, or redoing something a participant has done. Even when something needs to be redone, be diplomatic and work together. Avoid "TAKING OVER."

6. Staff and volunteers are encouraged to make their own Flower Shoes along with the participants. This is an opportunity to share ideas and techniques in a nonjudgmental manner.

7. When we encourage communication, the project may take longer, but that's ok. It's supposed to be a pleasant experience.

8. The amount of engagement will vary among the individual participants. One of the advantages with this project is that there's almost unlimited flexibility, and each one is unique, and as complex as the individual creating it wants it to be.

9. Be flexible with the time spent on this project. Ideally each flower shoe will take several days to complete; attention spans are limited, glue and paint need to dry, ideas need to gel.

10. Try to keep notes and take photos as the project advances. This will make a valuable resource for future flowers shoes. It is also important to keep "shoes in progress" safe from damage when the participating artists aren't present.

Putting it all together - the creative sequence of events
Note: the sequence can be changed to match the time and talents of the participating shoe artists.

1. The introduction - hands-on with model shoes and the decorative items that can be used.

2. Selection of a shoe - important for each participant to make their own selection, on a field trip to a yard sale or thrift shop, or even bring one from home.

3. First step is to paint, or use nail polish or other liquid trims. While the paint dries, everyone can discuss a theme they want to use, or select the trims and decorations they like.

4. After paint dries the shoe can be filled with soil. Soil can be moist, but not soggy.

5. Apply stickers, ribbon, glitter, stones, shells, other trims. If using a glue gun, use caution. While the glue gun is quicker, basic craft glues are safer.

6. After each addition of these trims and decor items, time needs to be given for drying.

7. After the shoe is completed, we suggest wrapping it with plastic wrap with only the top of the shoe open for the planting. It is important that the participant make the selection and do as much of the planting as possible. A large baggie is easier for some to use than the plastic wrap.

8. Colored stones (aquarium gravel or florist stones) can be placed on top of the soil after the planting is complete and the soil is firmed and watered.

9. Figurines, whimsy, etc. can be placed with the plant material. Silk flowers can be used, as well as craft items such as butterflies, animals, dinosaurs or, one shoe artist used miniature Star Wars figures for an "out of this world" shoe. Set the mind free and let something happen.

10. After planting and decorating are completed, the shoe artists may want to NAME their creation. This can be whimsical, humorous, serious or profound.

This is a creative flower pot and the live plants growing within will need light, water and an appropriate temperature. If this isn't being done as a Flower Shoe display, these creative footwear can be given as gifts. Some will later replace the live plants with silk flowers or artificial plants.

Why a flower shoe?

- It's creative recycling. What else can we can do with our worn out or outdated footwear?
- It generates a lot of interest and conversation in senior care, adult day care, in home services, family activities, schools and any other setting you think of.
- It can create great publicity for your HT program.
- Holding a "flower shoe" can be a great fund raising activity.
- Because its FUN.
- Most important is the opportunity for individuals to be empowered and free to express their creativity.

This is such a simple project that almost anyone can do it, even many of us with physical or mental limitations. The real beauty of this is the fact that the participants have an opportunity to be uniquely and individually creative. This is both empowering and liberating.

A few notes on horticultural therapy

Horticultural therapy deals with the very essence of life and the energy of being alive. We often see programs, practitioners and clients become so wrapped up in the objectives and the documenting of activities and responses that the experience begins to lack the natural spontaneity that the people-plant connection should generate.

When we focus on the plants we sometimes loose sight of the real goal. It's all about the people. When we focus on the people we too frequently concentrate on the limitations, our expectations and the achievement of goals. The people-plant connection is instinctive and mentally stimulating, if we are relaxed enough to let it happen. All too often, for those of us leading our hectic lives, those of us with special needs, those of us approaching the end of life and those of us experiencing significant life changes, our existence is limited, controlled and serious. There isn't time for the enchantment of discovery, the sharing of a smile or the sheer joy of creative energy unleashed. We live and work so hard that we neglect the power of whimsy.

We possess within us the tools necessary to be creative, all we need is an opportunity to use them. It is important to keep in mind that each individual comes equipped with a unique set of experiences, a viewpoint from a different perspective, a different way of functioning both physically and mentally, a different way of expressing herself or himself. We also come with our own negative baggage; inhibitions, fears, insecurities, damaged self-images and wounded self-confidence. We all need to lighten up and simply have fun.

Boston Baked Beans,
Human Beans and Has Beans

Let's start off with a little quiz, just just for fun. We suggest that it be taken with family members or friends Please don't keep score. Just enjoy, laugh together and share your thoughts and comments. That's what friends are for. One last comment from us, "It has bean fun composing this little quiz. Sit back, relax and enjoy some jelly beans along the way."

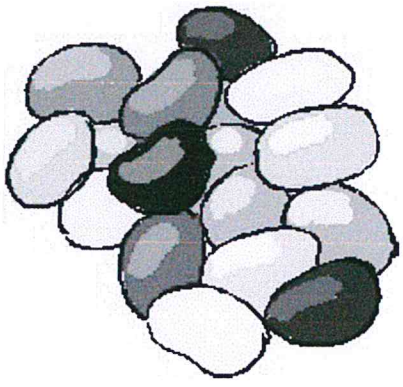
1. A bean counter is
a) an employee in a jelly bean factory
b) a gardener who is overly serious about planting the rows of beans in her garden
c) a dietician who records the nutritional value of each serving of beans on the dinner plate
d) an accountant

2. Boston baked beans originated with
a) the Pilgrims who landed at Plymouth. It was a tradition brought from Europe.
b) John Adams during the Revolutionary War
c) the Iroquois, Penobscot and Narragansett Indians
d) the Kennedy family

3. The bean bag is
a) a chair
b) used to relieve the discomfort of arthritis
c) a game similar to horseshoes
d) a cloth bag designed to carry a large quantity of pinto beans

4. Jelly Beans were
a) first found growing with carrots
b) first made in the Holy Land
c) began with the movie industry in the 1920's
d) were invented by the Easter Bunny

5. Which of these isn't a member of the bean family?
a) green beans
b) coffee beans
c) Lima beans
d) kidney beans



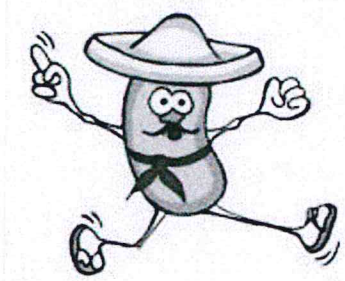
6. In the story Jack & the Bean Stalk what did Jack trade for the handful of beans?
a) the family cow
b) his mother's wedding ring
c) his grandmother's fine China
d) a portfolio of worthless stocks and bonds

7. The manufacture of Bush's Baked Beans has a closely guarded secret that who keeps trying to reveal?
a) the competitor, the HJ Heinz Company
b) Duke, the family dog
c) the son who was left out of the will
d) Col. Sanders

8. What is officially Baked Bean Month?
a) January
b) March
c) September
d) July

9. Who in this list was a real human being?
a) L. L. Bean
b) Jack Beany
c) Napolean Beanoparte
d) Ludwig Von Beanthhoven

10. A Mexican Jumping Bean jumps when
a) the temperature drops below 60 degrees, because it's shivering
b) the sugar content of the bean begins to ferment into alcohol
c) the moth larvae inside is awake
d) when it is ready to sprout



11. A bean by any other name is still member of the family. Which of the following wasn't invited to the Bean family reunion?
a) Sweet Pea
b) Lentil
c) Chickpea
d) Cashew

12. One of the all time favorite comic strips is Charles Schultz creation Peanuts. Peanuts are not really nuts, they are beans. That's how we can get away with this question in a bean quiz. One of the following comic stip characters is visiting from another strip. Which one of these isn't a Peanut?
a) Charlie Brown
b) Snoopy

c) Joey
d) Lucy

We've bean wondering:
1. Does anyone really like the ever-present green bean casserole?
2. Is it true? "You can lead a small child to green beans but you can't make him eat them."
3. Do you have a favorite bean recipe?
4. What kind of a bean do you grow if you plant a bean sprout?
5. What's your favorite Bean & Jerry Ice Cream flavor?
6. Have you ever made a bean bag?
7. What's your favorite un-bean? These are called beans but they aren't even related. Coffee beans, vanilla beans or chocolate beans?

If you were making a list of human beans who would you include? We'll get you started with *Leonard Beanstein* and *Daniel Bean*. The rest is up to you. Working together try to create at least a dozen?

You can do this with song titles, movies, great books, even TV programs. Unleash your imagination and see what you come up with.

Excerpted from *Along the Garden Path* written by Hank Bruce & Tomi Jill Folk

Answers to the quiz:
1-d) A bean counter is an accountant, or someone fixated on numbers.

2-c) Boston baked beans were a tradition long before there was a Boston. The Native Americans made them with beans, maple syrup and bear grease.

3-a, b, c, d) Trick question. They are all bean bags.

4-b) Jelly beans were first enjoyed in the Holy Land.

5-b) Coffee isn't in the bean family. It is really a gardenia.

6-a) Jack traded the family cow for a handful of beans.

7-b) the family dog, Duke, seems to have a problem with ethics. But the son is innocent.

8-d) July is official Baked Bean Month in the United States.

9-a) Leon Leonwood Bean founded the LL Bean Company in 1912.

10-c) The larvae of a moth is inside the Mexican jumping bean. With a little luck it will climb out of the bean as a moth.

11-d) The cashew isn't a bean, it's in the poison ivy family and is a first cousin to the mango.

12-c) Joey was the creation of Hank Ketchum and was the best friend in the Dennis the Menace comic strip.

A children's story with questionable moral values

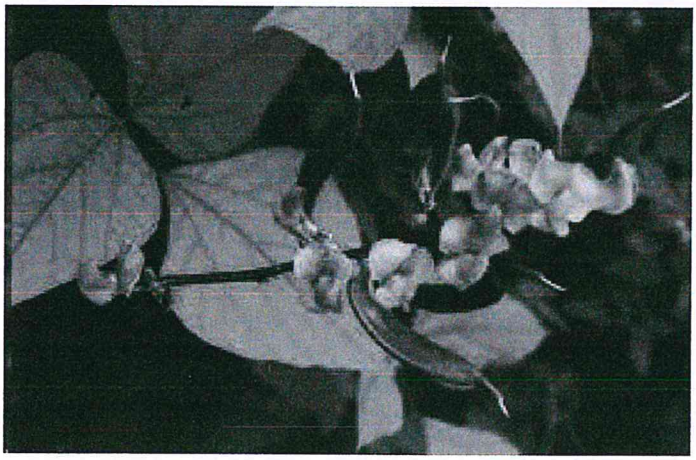
Jack & the Bean Stalk is one of the most popular of our classic fairy tales. But if we look a little deeper into this story there are some serious anti-social behaviors that needs to be addressed. We question whether this should be considered suitable for children, and strongly feel that this is appropriate for "Adults Only".

Think about it. Here we have a wayward youth who is sent on a simple shopping trip by his poor destitute mother. He's lazy and trades the family cow for a handful of beans to avoid going all the way into town. This displays a blatant disregard for his family, his parents and the economic system as a whole.

In a fit of anger he even discards the beans. After they grow he recklessly endangers his life, and the emotional stability of his mother, by climbing this vigorous weed like vine. At the top of the vine he find's the estate of T.H.E. Giant, a famous character actor who had appeared in numerous horror movies. Jack then commits a number of crimes including, but not limited to, trespassing, vandalism, breaking and entering, petty larceny, grand theft, burglary and trafficking in stolen goods. As if this weren't bad enough. After he climbs down the beanstalk with all these stolen goods he commits pre-meditated murder. Is this irresponsible youth, the moral example we want to set for our children?

But what about the bean? What was that strange bean that grew like a kudzu vine on steroids? We are about to share our thoughts about the identity of this super bean. We are almost 99% certain it was a LabLab Bean. Here's a little information on this dynamic plant.

What Was Jack's Incredible Bean Stalk?



We think it was the Lablab (or Hyacinth) bean

adapted from *Windowsill Whimsy* by Hank Bruce & Tomi Jill Folk

Dolochios lablab
Bean family, Fabaceae
Native to Asia and possibly East Africa
All parts safe, dried seeds should not

be eaten raw
Rating: Very easy to grow
Time frame: 1 hour to initiate the project. Two to three months for vine and flower production.
Size: Large scale project
Warning: the flowers may attract those pesky hummingbirds

But, what's so special about this bean?
This bean is fun to grow without committing any of the above mentioned crimes. Because this vine grows with such vigor we strongly suspect that these were the beans that Jack received in his trade for the cow. Fortunately, you don't have to trade a cow for them though. The seeds are readily available.

This plant is also known as Hyacinth bean, Pharaoh bean, shink, bonavist, Chinese flowering bean and countless other names around the word. It is a vigorous vine reaching 12-18 feet (4-6 m) on a trellis or fence and is perennial in frost free regions. It's available in both a white flowering and a purple flowering model. Both grow equally well.

If we could only grow one bean this would be it. The lavender, pink or white flowers are so spectacular that in the Orient bouquets are sold as a part of the florist's trade. Not only are these flowers beautiful, they're also delicious, tasting like sweet green beans. They make a great garnish addition to salads, soups and stews. They can be smothered with a lemon flavored cream sauce for a truly delightful side dish. You can also add a handful of these fresh flowers to rice to enhance the flavor and give it a pink blush.
The cut flowers are popular in many parts of Asia for bouquets and as tokens of affection. The story goes that a love struck young fellow gives the girl of his dreams a bouquet of lablab flowers. If she is interested in him she invites him in to share a dinner of lablab flowers served in a lemon cream sauce. What if he isn't the personification of the poor man pictured on the latest romance novel? you know, the guy so destitute ha can't even afford a shirt. She simply closes the door in his face and her family enjoys the delicious meal.

The young beans are a rich purple in color. They can be used raw in salads or cooked like green beans. When cooked they retain a pink color. As the seeds begin to form and the pods swell, they can be shelled like peas or limas. When cooked these beans have a good flavor. Left to dry on the vine, then shelled, the dry beans can be stored for a long time. The dried black or cream colored beans also have a delightful flavor when cooked.

But that's not all. A bonus for all growing this delightful vegetable is in

the leaves. Young, tender leaves can be harvested and cooked as a you would spinach. With diced onions and green chiles they are delicious. They can also be cooked with slices of lemon rind for a different taste.

Wait! There's still more. This remarkable plant also produces an edible tuber about the size of a turnip. Sliced in a mixed vegetable stir-fry it's delicious. Or you can boil, bake, roast or serve this tuber with a cream sauce. In mild climates this root can be stored in the ground where it was growing until you are ready to use it.

What more can we ask of a plant that grows easily from seed, thrives in a wide variety of soils and loves the summer heat. It will grow in full sun or light shade. While this bean will take a good deal of dry weather it does best with regular watering. This is an ideal summer vegetable that can begin to flower in less that 60 days. The first leaves can be harvested in 30-40 days. In frost free areas it will grow and bear for several years.

Lablab beans can also be grown on a sunny windowsill. They will vine and bloom with enthusiasm. This plant is too much fun to grow alone. Share it with friends, neighbors, children, grandchildren or grandfriends. WARNING! Hummingbirds think you planted these colorful flowers just for them.

Planting Your LabLab Bean Seeds
Materials needed:
1. A suitable container, approximately 1 gallon capacity or larger. Be creative
2. Sufficient soil to fill the container
3. 3 to 5 LabLab bean seeds
4. A copy of the traditional fairy tale, *Jack & the Bean Stalk*
5. A healthy imagination and a crafty personality because you will need to be creative
6. A custom made trellis or support for the vine. You can use twigs, cord, colorfully painted wood or almost anything else you find in the closet or junk drawer

Putting it all together:
1. Fill the container with soil.
2. Raise your left hand and hold it thumb up.
3. Rotate hand so that it is now thumb down.
4. Press thumb into soil to the depth of first joint.
5. Repeat until you have made as many holes in the soil as you have seeds.
6. Place seeds 1 per thumb print, cover and water well.
7. Place on a sunny windowsill and wait, seeds usually germinate in 5 to 10 days.
8. While waiting, read the story to a friend, relative or neighborhood child, if you have parental permission.
9. As the seeds sprout make a creative trellis or support for the vines.
10. As the buds open, dine on the first flowers, fresh from the vine.

Note: Lablab (hyacinth beans)beans Can be planted directly in the soil outdoors after danger of frost is past.

Care & Feeding of Jack's beanstalk

Light - The more light the better. A sunny window or patio is ideal.

Soil - It does best in a loose compost rich soil with a little sand added, but will accept almost any quality potting, as long as it's well drained.

Water - The soil should be kept lightly moist but too much water will do it in. they are moderately drought tolerant. This is another plant that doesn't know how to swim.

Feeding - Any good organic plant food about once every month or two is a good diet. Over feeding can produce weak growth and less bloom.

Training - This is a natural climber and will twine its way around a windowsill, or over a trellis. It enjoys climbing fences and corn stalks too.

Containers - A one or two gallon container is ideal. We have also seen them grown well in a galvanized bucket turned into a hanging planter. They can be planted directly in the ground but will grow with even greater vigor.

Pests - Fortunately there are few pest that bother these beans. The biggest problem indoors is insufficient light. Over watering and poor drainage can also be a problem.

Part of the joy of growing uncommon plants is in the sharing. You can share the delicate flavor of these blossoms with friends, family and guests. The leaves can be cooked like spinach and the young beans are great used as you would green beans. The dried beans are flavorful, but should not be eaten raw. Because uncooked they are difficult to digest.

Building a Butterfly Garden

adapted from *Miracles Grow in the Garden* by Hank Bruce & Tomi Jill Folk

The Veterans' Home had a little garden where they grew a few vegetables and some roses. Janet was the visiting horticultural therapist and she also had a gardening program with a group of at risk teens who had to do a service project. When the gardening group at the veterans' home asked about a creating a butterfly garden at the entrance to the courtyard, Janet put the two needs together and soon a butterfly garden was being planned.

While the site was being prepared and materials purchased, there were almost daily lectures to the teens about how to treat elders with respect. There were constant warnings about the language to be used with the "old folks." Forbidden was a good deal of the basic vocabulary of these youths.

When the day came to begin the project twenty teenagers, male and female, arrived ready to work, also prepared to be on their best behavior, complete with "Yes Sir" and "Whatever you say Ma'am." It was less than ten minutes into the project when one of the veterans dropped one of the towers they had built for the morning glories.

I cannot print here his verbal comments, but it was obvious that no one had coached the vets on limiting their vocabulary. After the laughter died down and the water bottles were passed around, the two age groups began to work very well with each other. They found that they both spoke the same language, even if it disturbed the teachers present. One of the vets observed as they were putting away the tools that first afternoon, "Them kids has got a lot to learn. Ain't no way any of them can out cuss a Marine."

The bond continued to grow. After the garden was created and plants were bursting into bloom the teens continued to drop by after school, just to visit and see if there were any new butterflies. One magical moment came while I was there to get an update on the project. As I approached one of the circular raised beds, I greeted the dozen or more teens and vets staring into the plants. Instantly they turned, put their fingers to their lips and, in unison, said "Shhhhhhhhh."

Then they pointed to a chrysalis that was split down the side. One of the teens whispered, "It's gonna be a Monarch. I ain't never seen anything like this before. It's like it's being born." With that he returned to the event happening in front of them. He was holding his cell phone, recording the moment for his Facebook friends. That list of friends, we later learned, included several of the vets who had connected on the social network.

Why a garden for bugs?

Marla was 32 years old, shy and insecure from a life long speech impairment and abuse. Her paperwork for the day care center stated "Does not interact well with others. Speech limited." That's all we knew about her the day she wandered into the butterfly garden. She silently watched as the other clients watered and did some basic maintenance. Then one of those magic moments just happened. A tiger swallowtail fluttered up to the morning glory beside her, then landed on her nose. The expression on her face was absolutely beautiful. The broader she smiled, the more content this bug with yellow and black wings seems to be. It returned to the flower, but moments later was back on her arm. It was like everyone else froze in place, afraid to make either movement or sound.

Together, they shared the magic of the moment. Gracie, the volunteer, slowly removed her smart phone from her hip pocket and recorded the event. Later, when Marla was presented with an 8x10 photo of her and her new friend, she said over and over again, "Thanks you. Thanks you. Thanks you." She pointed to the photo and said to the crowd gathered around her as they were waiting for the rides home, "Look. My friend." Then she looked into the faces of the other clients and smiled. That was the day she learned what friendship was all about. This is why we plant butterfly gardens.

Where the bugs are

A butterfly garden is a place planted and nurtured in the hope that the bugs will come. It can range from few flower pots on the patio to acres of wildflower meadow. It can be located at an adult day care center, a school, and community garden or a back yard. One of the locations that surprised us was located at the side of a small restaurant with some outdoor seating.

A successful butterfly garden is one where both butterflies and people feel welcome and comfortable. This means a picnic lunch and something to drink for the butterflies, and some shade and comfortable seating for the people. We are talking about creating a butterfly garden for use in horticultural therapy programs, usually as a part of a sensory garden. In the first chapter we discussed ways to make a sensory garden most accessible and effective. All of those suggestions work for butterflies too.

It's a symbiotic relationship involving plants, people and bugs.

The Butterfly Gardeners (the team)- usually at least 2-4 individuals dedicated to maintaining this garden and 1-2 volunteers or staff to encourage, guide and facilitate, but not do the work. We have participants, not spectators.
1. Initially, participants will prepare the planting area, including painting found containers to place near the raised bed.

2. Participants can go on field trips to purchase plants for their butterfly garden.

3. Routine daily or frequent plant maintenance for the participants can involve: planting watering, deadheading, weeding and feeding the plants.

4. Participants will need to daily clean and fill the water and fruit dishes for butterflies.

5. Everyone can be involved in daily review of the butterfly garden to locate butterfly eggs, larvae & chrysalises.

6. Everyone can work together to keep photo/art journal. This can be butterfly garden specific or cover the entire sensory garden.

5. Participants, staff and/or volunteers can hide whimsy surprises for treasure hunts that can be an activity for other clients.

Structure - a raised bed, or more than one, with various colorful & whimsical containers spaced around it is a great way to begin. The garden can grow as the plants do, and each year there is the potential to incorporate new ideas. Whimsy containers can be added throughout the warm months so that there is always something new and different for both the human and butterfly visitors. In one butterfly garden an old wheelbarrow, brightly painted made a delightful portable garden. It was planted in milkweeds and dandelions. The Monarchs loved it.

Purpose - This feature provides physical activity and interaction along with empowering experiences including nurturing, routine maintenance and opportunities to observe growth and change. There are also opportunities for entertainment, education and environmental action.

1. "Looking for the surprise" - attracting butterflies and providing larval feed plants such as dill and milkweed.

2. "Save the Monarchy!" We can all be a part of the solution by providing milkweed plants for the young and nectar plants for the adults.

3. Feeding stations where participants provide pieces of fresh fruit changed on a daily basis.

4. Maintaining a water station for butterflies and hummingbirds.

Important - Do not use any insecticides, including those with an organic label. They can still kill the butterflies.

Plant Possibilities for the Butterfly Garden

The species of plants selected for your butterfly garden will vary with location, climate, space and interest. If you are encouraging community participation, they may have suggestions or plants to share. It is important to check all donated plants for any insect problems before making them a part of your butterfly garden.

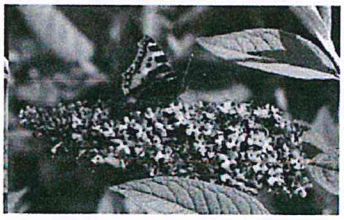
If you are trying to attract specific species of butterflies you will need to include plants that provide food for the butterfly kids (larvae or caterpillars) as well as some nectar plants for the adults.

Don't try to do all the planting at one time. It is better for all concerned if this is done as a gradual process with something new each week.

The following are all easy cultivation, colorful flowering and offer an extended blooming season. (A) indicates adult nectar source. (L) indicates a food plant for larvae.

Anise hyssop *Agastache foeniculum* (A) (safe) aromatic plant many species of butterflies enjoy. Perennial easily started from cuttings.

Black-eyed Susan, *Rudbeckia* (A) (safe) This informal perennial with bright yellow flowers is a butterfly magnet.



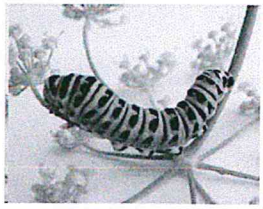
Butterfly bush *Buddleja davidii* (A) (safe) This free flowering shrub is easy to grow and attracts many species of butterflies. It can be kept pruned to desired size or left to grow to it's larger shrub size, often exceeding 10 feet.

Butterfly weed, *Asclepias tuberosa* (A) (L) (leaves and sap should not be ingested). This beautiful native wildflower is a relative of milkweed and a favorite larval food of the Monarch Butterfly. Can be grown from seed or started plants.

Coneflower *Echinacea* (A) (safe) This purple flowered native daisy is an easy to grow perennial that can be grown from seed or started plants.

Cosmos (A) (safe) Produces masses of colorful cheerful flowers. Easily started from seed.

Dandelion *Taraxacum officinale* (A) (L) (safe) Beautiful flowers of this attractive, easy to grow plant attract many butterflies. The leaves are a favorite of the Woolly Bear caterpillar.



Dill (A) (L) (safe) favorite food for black swallowtail butterflies.

Gaillardia (A) (safe) perennial best grown from started plants. Daisy like flowers produced in oranges and reds throughout the

growing season.

Globe mallow *Sphaeralcea coccinea* (A) (safe) native NM plant related to hollyhocks.

Hollyhocks (A) (safe) Variety of colors, may grow over six feet tall, long blooming.

Lantana (A) (leaves, stems, flowers and seeds should not be ingested) Easily started from seed or cuttings. Pruned frequently it will be covered with blossoms.

Milkweed *Asclepias Syriaca* (A) (L) (leaves and sap should not be ingested) there are many varieties of this native plant. Easily started from seed. Monarch butterfly larvae love milkweed leaves. Adults visit the flowers for the nectar.

Morning glory (A) (avoid ingesting flowers, leaves or seeds) colorful vining plant that butterflies enjoy. Easily started from seed, train on a stake or trellis.

Parsley (A) (L) (safe) favorite larval food of black swallowtail. Easily grown from seed.

Prairie clover *Dalea purpurea* (A) (safe) free flowering native plant. Easily grown from seed, drought tolerant. Blooms throughout summer months.

Purple aster (A) (L) (safe) this perennial wild flower gives colorful bloom in late summer and autumn. The leaves are also the caterpillar food of the pearly crescent butterfly, painted lady and several others.

Red clover (A) (safe) free flowering native plant. Can start from seed or plants collected from the wild. Dead head spent flowers for extended season.

Verbena (A) (safe) Easily grown from seeds, divisions and rooted creeping stems.

White clover (A) (L) (safe) is often viewed as a perennial lawn weed but it makes an attractive plant and the butterflies love it. Can be grown from seed or collected plants. It will spread to form a mat and cascade over the edge.

Zinnia (A) (safe) This free flowering annual plant is easy to grow from seed and popular with many species of butterflies.

Beyond the plants

Butterflies Get Thirsty Too

Water for butterflies can be in the form of a puddle, some call this a water station, in a sunny area, preferably near the butterfly garden. Avoid deep water. Butterflies can't swim, but the can drown if their wings become wet and waterlogged.

Other insects might visit your backyard water station. When you are providing for thirsty butterflies, you may also be helping some of the native bees.

What You Need:
A shallow tray or saucer (a clay pot saucer works well)
Sand to cover the bottom of the saucer
Enough smooth, flat stones to fill the tray
Water

Here's How:
1. Place a shallow tray or saucer on the ground.

2. Cover the bottom of the saucer with the sand.

3. Fill the tray with smooth, flat stones.

4. Pour water into the tray until it fills the spaces between the stones. The water should not cover the stones.

5. Wait for the butterflies and other insects to visit the watering hole for a sip of water on hot days.

Tips:
1. Locate your watering hole near flowering plants, and bees and butterflies will find it faster. You can place the tray on a stand or old tree stump, too.

2. Butterflies need minerals, and drink water from mud puddles to get these minerals from the soil. You can put a layer of soil in your saucer first, then add rocks and water, to create a puddle of minerals for the butterflies in your yard. Don't use soil from areas where

3. Make sure you refill the tray on hot days when the water may evaporate quickly.

4. If your container has a flat bottom and will rest level, you can place it on top of the ground instead of in a hole or depression.

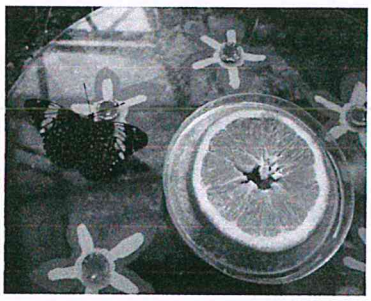
5. If your water is chlorinated, let it sit in a separate container overnight to let the chlorine evaporate. Otherwise, regular hose water is fine.

6. Add butterfly-attracting plants to the landscape near the pond or pool.

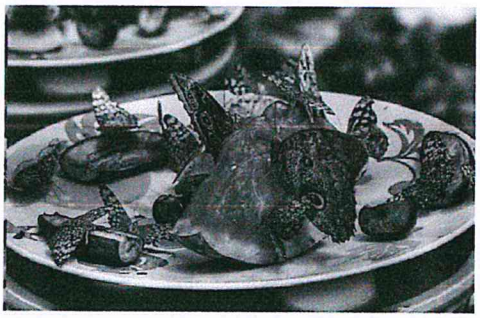
7. Watch for hummingbirds. They may visit the flowers, and the water station. You can even add a hummingbird feeder to your butterfly garden.

Warnings:
1. Never overfill the pond. Butterflies can't swim and may drown, even in shallow water.
2. Maintain your pond and clean it regularly to prevent algae and mosquitoes. If the water is maintained at proper levels, mosquitoes won't have enough water to breed.

A butterfly picnic Fruit salad for the adult butterflies



Adult butterflies enjoy a healthy snack of bananas, oranges, grapefruits, cantaloupe, strawberries, peaches, nectarines, kiwi, apples, watermelon and bananas.



Notes on the Butterfly picnic:
1. Plastic plates can be painted with colorful flowers, stickers or decals can be applied around the edges of the plate. These bright colors attract the butterflies to their picnic table.

2. The picnic meal should be put near the butterfly garden as early in the morning as possible.

3. Experiment with different kinds of fruit and try to determine what fruit the butterflies like best.

4. The fruit should be changed daily. Left over fruit should be discarded before leaving for the day to prevent attracting rodents.

Related activities

Activities that take place in the butterfly garden will depend on the interest, mobility and functioning level of each individual. There ways enough to enjoy the butterfly garden to provide opportunities for almost everyone.

Create a photograph and art and scrapbook of butterflies attracted to the garden.

Create art projects about flowers and butterflies, using various mediums, such as clay or decoupage.

Make dried flower arrangements from what's growing in the butterfly garden.

Keep a butterfly log recording the butterflies that visit your garden.

Write a poem or a short story about butterflies.

Share a long ago memory with some friends

Create labels & markers for the plants.

Coloring pages

A hummingbird feeder

Creative whimsy

Butterfly art

Saving the Monarchy

Sharing butterfly plants with a senior center, school, local library or other organization

A Butterfly Yearbook, keeping a photo journal

Buttons & Bows Butterflies is a rainy day fun activity that begins with butterfly coloring pages printed on heavy paper. The creativity begins when the participants decorate their butterfly with assorted buttons, ribbon, bows and creative use of markers or crayons. This activity is great for a rainy day when a little laughter is needed.

Pin the Butterfly on the Flower The original idea for this modification of Pin the Tail on the Donkey came from Benny, an elderly gentleman with memory loss, but his creativity was definitely in working order. On his own he collected a number of colorful flower seed packets and taped them to the wall to make his butterfly garden. Next, he carefully placed a piece of "double sticky tape" (his term for double faced tape not mine) on some plastic butterflies the activity director had purchased at a dollar store. Playing the game to dance music, each active elder got a chance to, after being blindfolded, pin three butterflies to flowers in the garden. *Imagination can be a dangerous thing*

The Butterfly Dance Gerri is a retired music and dance teacher. She has trouble comprehending that all those old folks around her weren't her class. Most of the folks politely go along with her as she assembles her class in the shade of the butterfly garden's gazebo. She choreographed a "hand dance" reflecting the flight of butterflies from flower to flower. The problem was that some of her students can't stay seated and became very creative in dance steps of their own. She couldn't move a piano into the garden, but she does quite well on the guitar. The dancing isn't. Dancing with the Stars quality, but it does generate a great deal of laughter and physical exercise.

The Butterfly Hunt She was a volunteer at Delmont Adult Day Care. She was troubled by the boredom and restlessness in the morning drop off period. The clients would wander into areas they weren't supposed to be, become argumentative or disruptive. Rather than be confrontational, she invented a game. Arriving early she would spend a few minutes in the sensory garden hiding plastic butterflies. The client who found the most won a surprise from the snack tray. When the weather wasn't cooperating the plastic butterflies moved into the activity room.

Testing Your Wings, a Butterfly Quiz

Excerpted from *Garden Projects for the Classroom & Special Learning Programs* by Hank Bruce & Tomi Jill Folk

Some questions may have more than one right answer

1. How many species of butterflies are fluttering throughout the world?
   a) 1,200 b) 5,450 c) 14, 600 d) 28,000

2. Butterflies only fly during the day.
   TRUE or FALSE

3. Butterflies cannot fly if the temperature is too low.
   TRUE or FALSE

4. You can tell the difference between moths and butterflies because:
   a) moths have 4 legs and butterflies have 6,
   b) moths have feather like antennae and butterfly antennae are knobby,
   c) moths spin a cocoon of silk thread, butterflies form a chrysalis
   d) moths usually fly at night, butterflies fly during the day
   e) Moths have two wings, butterflies have four.

5. Adult butterflies can't hover, they need flowers they can land on while they feed.
   TRUE or FALSE

6. Adult butterflies are really just pretty pests because they eat our brightly colored flowers.
   TRUE or FALSE

7. All moths are very destructive because they feed on our fruit and vegetables.
   TRUE or FALSE

8. If you want to watch the butterfly kids grow up you will need to grow food just for them.
   TRUE or FALSE

9. Not all grownup butterflies eat the same thing for dinner, but which of these might butterflies eat?
   a) small insects like aphids b) plants and leaves c) nectar d) pieces of overripe fruit e) fresh animal dung f) don't eat anything

10. Butterflies and their caterpillar children are a part of a natural food chain. Which of the following might dine on our favorite bugs?

a) birds b) squirrels c) wasps d) other butterflies e) cats f) people g) spiders

answers to the quiz:

1 d), 2 true, 3 true, 4. b, c, & d, 5) true, 6) false, 7) False, although it is true that the coddling moth damages the apple crop, the corn borer is the larva of a moth, some species of moth larva also feed on clothing, flour and other food sources. On the other hand, many species of moths carry pollen for night blooming flowers, others are the source of silk. Some are extremely beautiful, such as the luna and cercopia moths. Others are just plain fun like the wooly bear. 8) true, and each butterfly infant has its own favorite baby food. 9) c, d, e, & f, 10) a, b, c, e, f, & g Yes, in many parts of the world caterpillars are a part of the human diet.

Thinking together, questions for discussion:

Are butterflies good or bad for the environment? Good topic for discussion or debate.

What would be the environmental impact if all the Monarch butterflies disappeared?

What animals feed on butterflies and their caterpillars? Should they be discouraged or not?

What happens to the butterfly garden if we spray an insecticide for mosquitoes or fleas in the area?

Why does each butterfly have only certain plants that it will feed on as a caterpillar?

Why don't adult butterflies eat the same food that their caterpillar kids do?

What happens inside the chrysalis?

What are the differences between butterflies and moths? Are moths good or bad?

What do moths have to do with silk?

Are butterflies good or bad for your plants?

Why do hummingbirds frequently visit a butterfly garden?

How can we attract butterflies?

A group senior gardeners were enjoying an empowerment program that combined gardening and creativity. As an assignment they were to work as a group to make a series of signs for the wild flower/butterfly garden they had helped create to provide a "Place where caterpillars can grow their wings."

These are some of the signs they created.
Perhaps you can think of a few more.

Today you're a caterpillar,
Tomorrow you will be a Butterfly,
But you're still a bug.

Careful! The butterflies are wearing their caterpillar suits

We are all butterflies waiting for our wings

Quiet! Baby butterflies having lunch

Watch out for flying flowers

Notes on Safe and Dangerous Plants

We so often worry about whether a plant is safe or not and even avoid the use of plants in senior care and school settings because of a fear that someone may be harmed. It is wise to be cautious with plants that defend themselves with spines, thorns or sharp leaves.

Of course we need to be concerned about plants and plant parts such as fuzzy leaves, or large seeds that may be a choking hazard. Ingesting some plants can cause serious reactions when an individual is dealing with specific health problems or is taking certain medications. Heart rate, breathing, loss of balance, lack of coordination, vomiting, diarrhea and impaired vision are some of the serious symptoms. Some are even life threatening for small children and frail elderly.

Others may cause an allergic reaction for some and not for others. Some plants can cause a skin reaction, such as inflammation, rash or itching. The risk is far greater from the cleaning compounds found on easily accessible service carts, but we still need to be aware of what plants, and plant parts, pose a danger to humans and pets. We do need to remind you that people on medications, those suffering from illness or disease, children and senior citizens may react differently than a healthy adult.

If you have questions, contact your local poison control center, hospital or county extension agent for reliable answers. Warning! No matter how safe the plant is, the use of pesticides and some plant foods can render them dangerous. Most of the plants commercially grown have been sprayed with these chemicals.

Only the plants known to be edible should be consumed, and only in limited quantities until you are certain that there isn't going to be any allergic reaction. Sometimes only certain parts of a plant are a problem. As an example, tomato and potato leaves are poisonous and do not belong in anyone's salad but the fruit, or tubers, are nutritious.

Safe Plants

A note on "safe" plants: The plants on this list are generally considered safe. However, if you suspect that a child (or adult) has eaten quantities of any of these plants (or any of their parts), or if you notice symptoms such as vomiting, difficulty breathing, diarrhea or dermatitis after handling these plants, call your Poison Control Center for additional information: (800) 222-1222.

Dangerous Plants

This was not written to discourage anyone from growing plants. In no way do we want to prevent you from being a part of the people-plant connection. There is generally a far greater threat found in pesticides, cleaning compounds and over the counter medications than there are from most so called poisonous plants.

There are various ways plants can be a threat

1. Some, like yucca, prickly pear cactus and roses have thorns, spines or sharp points that can cause puncture wounds. These wounds can be an entry site for infection.
2. Some can cause dermatitis, rashes, or an allergenic reaction. We are all familiar with stinging nettles and poison ivy.
3. Often problems can come from common fruits and vegetables. Tomato and potato leaves contain solanine. Onions, horseradish, even chives contain natural chemical compounds that can cause eye inflammation. Mangos and cashews are in the same plant family as poison ivy and some people react to them, although this is rare.
4. Many of the plants we commonly cultivate as a part of the landscape or indoor decor can be a problem. Azaleas, rhododendron and mountain laurel, delphiniums and lily-of-the-valley, philodendron and tulips all pose a threat if ingested.
5. Often, a plant, or plant part, that can cause a mild or insignificant reaction in a health adult can cause a serious problem for a child, the frail elderly or someone with chronic health problems.
6. There can also be the danger from a reaction with medications, chemical sensitivity or allergy.

The actual number of people adversely reacting to plants considered dangerous is very small. Fatalities are extremely rare and usually connected with other health problems. Far more people die each year in from insect stings, rattlesnake bites, household chemicals or food poisoning than dangerous plants.

Safe Plants

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Safe plants:

Common name	**Scientific name**
Abutilon	Abutilon spp.
African daisy	Arctotis spp.
African violet	Saintpaulia ionantha
Albizia, silk tree	Albizia julibrissin
Aluminum plant	Pilea spp.
Alyssum	Alyssum spp.
Aphelandra (zebra)	Aphelandra squarrosa
Areca palm	Chrysalidocarpus lutescens
Aspidistra	Aspidistra elatior
Astilbe	Astilbe spp.

Baby's tears	Soleirolia soleirolii
Bachelor's button	Centaurea cyanus
Balloon flower	Platycodon grandiflorus
Balsam	Impatiens spp.
Bamboo	Bambusa multiplex
Bamboo, Golden	Phyllostachys aurea
Bee balm	Monarda spp.
Bellflower	Campanula spp.
Bird of paradise	Strelitzia reginae
Bird's nest fern	Asplenium nidus
Black-eyed Susan vine	Thunbergia alata
Blue (marguerite) daisy	Felicia amelloides
Boston fern	Nephrolepis exaltata
Bottle palm	Beaucarnea recurvata
Bottlebrush	Callistemon spp.
Brush cherry	Syzygium spp.
Butterfly bush	Buddleia davidii
Calceolaria	Calceolaria spp.
California poppy	Eschscholzia californica
Callistemon	Callistemon spp.
Camellia	Camellia japonica
Campanula	Campanula spp.
Canna lily	Canna generalis
Carob tree	Ceratonia siliqua
Carpet bugle	Ajuga reptans
Cast iron plant	Aspidistra elatior
Cattleya orchid	Cattleya spp.
China aster	Callistephus chinensis
China doll	Radermachera spp.
Chinese fountain palm	Livistona chinensis
Christmas cactus	Schlumbergera bridgesii
Cleome	Cleome hasslerana
Cockscomb	Celosia spp.
Coleus	Coleus hybridus
Coprosma	Coprosma spp.
Coreopsis	Coreopsis grandiflora
Coral bells	Heuchera sanguinea
Corn plant	Dracaena spp.
Cornflower	Centaurea cyanus
Cosmos	Cosmos bipinnatus
Crape myrtle	Lagerstroemia indica
Creeping Jenny	Lysimachia nummularia
Crocus (spring-blooming)	Crocus vernus

Crown-pink	Lychnis coronaria
Dahlia	Dahlia hybrids
Daisy, African	Arctotis spp.
Dandelion	Taraxacum officinale
Daylily	Hemerocallis spp.
Douglas fir	Pseudotsuga spp.
Dracaena	Dracaena spp.
Dragon tree	Dracaena spp.
Easter lily	Lilium longiflorum
Echeveria	Echeveria spp.
English lavender	Lavandula angustifolia
Epidendrum orchid	Epidendrum spp.
Calathea	Calathea spp.
Eugenia	Syzygium spp.
Evening primrose	Oenothera caespitosa
Exacum	Exacum affine
False aralia	Dizygotheca elegantissima
False spiraea	Astilbe spp.
Fern, Bird's nest	Asplenium nidus
Fern, Boston	Nephrolepis exaltata
Fern, Hare's-foot	Polypodium aureum
Fern, Holly	Cyrtomium falcatum
Fern, Maidenhair	Adiantum spp.
Fern, Roundleaf	Pellaea rotundifolia
Fern, Staghorn	Platycerium bifurcatum
Fern, Sword	Nephrolepis exaltata
Fittonia	Fittonia spp.
Flame violet	Episcia cupreata
Flaming sword bromeliad	Vriesea spp.
Flowering maple	Abutilon spp.
Forget-me-not	Myosotis sylvatica
Fragrant olive	Osmanthus spp.
Freesia	Freesia spp.
Fuchsia	Fuchsia spp.
Gardenia	Gardenia jasminoides
Gerbera	Gerbera jamesonii
Globe thistle	Echinops exaltatus
Gloxinia	Sinningia speciosa
Golden bamboo	Phyllostachys aurea
Goldfish plant	Columnea spp.
Hawthorn	Crataegus spp.
Heart-of-flame bromeliad	Bromelia spp.
Hens and chickens	Sempervivum tectorum

Heuchera	Heuchera sanguinea
Hibiscus	Hibiscus spp.
Honey locust	Gleditsia triacanthos
Hosta	Hosta spp.
Ice plant	Aptenia cordifolia
Ice plant	Carpobrotus spp.
Ice plant	Lampranthus spp.
Impatiens	Impatiens spp.
India hawthorn	Raphiolepis spp.
Japanese aralia	Fatsia japonica
Japanese snowball	Viburnum plicatum
Job's tears	Coix lacryma-jobi
Lady palm	Rhapis excelsa
Lavender, English	Lavandula angustifolia
Lipstick plant	Aeschynanthus spp.
Liriope	Liriope muscari
Lithops	Lithops spp.
Living stones	Lithops spp.
Magnolia, Star	Magnolia stellata
Manzanita	Arctostaphylos spp.
Meadow sweet	Astilbe spp.
Mirror plant	Coprosma spp.
Monarda	Monarda spp.
Money plant	Lunaria annua
Moneywort	Lysimachia nummularia
Moss rose	Portulaca spp.
Mountain ash	Sorbus aucuparia
Mulberry	Morus spp.
Nasturtium	Tropaeolum majus
Neoregelia bromeliad	Neoregelia spp.
Nerve plant	Fittonia spp.
Norfolk Island pine	Araucaria heterophylla
Oncidium orchid	Oncidium spp.
Osmanthus	Osmanthus spp.
Pachysandra	Pachysandra terminalis
Palms	(Most houseplant palms are nontoxic except fishtail palm, Caryota spp.)
Palm, Areca	Chrysalidocarpus lutescens
Palm, Bottle	Beaucarnea recurvata
Palm, Chinese fountain	Livistona chinensis
Palm, Lady	Rhapis excelsa
Palm, Paradise	Howea spp.
Palm, Pigmy date	Phoenix roebelenii
Palm, Sentry	Howea spp.

Palo Verde	Cercidium spp.
Paphiopedilum orchid	Paphiopedilum spp.
Paradise palm	Howea spp.
Passion vine	Passiflora spp.
Peperomia	Peperomia spp.
Persian violet	Exacum affine
Petunia	Petunia hybrida
Phlox	Phlox paniculata
Photinia	Photinia spp.
Piggy-back plant	Tolmiea menziesii
Pilea	Pilea spp.
Pine tree	Pinus spp.
Polka-dot plant	Hypoestes spp.
Pittosporum	Pittosporum tobira
Plane tree	Platanus occidentalis
Plantain lily	Hosta spp.
Ponytail plant	Beaucarnea recurvata
Portulaca	Portulaca spp.
Prayer plant	Maranta leuconeura
Purple coneflower	Echinacea spp.
Purple velvet plant	Gynura aurantiaca
Queen's tears bromeliad	Billbergia spp.
Raphiolepis	Raphiolepis spp.
Rattlesnake plant	Calathea spp.
Red-hot poker	Kniphofia uvaria
Rockrose	Cistus spp.
Rosary vine	Ceropegia woodii
Rose of Sharon	Hibiscus spp.
Sage	Salvia spp.
Salvia, flowering	Salvia spp.
Sea lavender	Limonium spp.
Sensitive plant	Mimosa pudica
Sentry palm	Howea spp.
Silver vase	Aechmea spp.
Snapdragon	Antirrhinum spp.
Spider flower	Cleome hasslerana
Spider plant	Chlorophytum comosum
Spiraea	Spiraea spp.
Spruce	Picea pungens
Star magnolia	Magnolia stellata
Statice	Limonium spp.
Stonecrop	Sedum spp.

Strawberry tree	Arbutus unedo
Strelitzia	Strelitzia reginae
Sunflower	Helianthus annuus
Swedish ivy	Plectranthus spp.
Sweet gum	Liquidambar spp.
Sycamore	Platanus occidentalis
Ti plant	Cordyline terminalis
Torch lily	Kniphofia uvaria
Touch-me-not	Impatiens spp.
Transvaal daisy	Gerbera jamesonii
Velvet plant, Purple	Gynura aurantiaca
Viburnum	Viburnum spp.
Vriesea bromeliad	Vriesea spp.
Weigela	Weigela spp.
Willow	Salix spp.
Yucca	Yucca spp.
Zinnia	Zinnia spp.

Dangerous Plants

This was not written to discourage anyone from growing plants. In no way do we want to prevent you from being a part of the people-plant connection. There is generally a far greater threat found in pesticides, cleaning compounds and over the counter medications than there are from most so called poisonous plants.

There are various ways plants can be a threat

1. Some, like yucca, prickly pear cactus and roses have thorns, spines or sharp points that can cause puncture wounds. These wounds can be an entry site for infection.
2. Some can cause dermatitis, rashes, or an allergenic reaction. We are all familiar with stinging nettles and poison ivy.
3. Often problems can come from common fruits and vegetables. Tomato and potato leaves contain solanine. Onions, horseradish, even chives contain natural chemical compounds that can cause eye inflammation. Mangos and cashews are in the same plant family as poison ivy and some people react to them.
4. Many of the plants we commonly cultivate as a part of the landscape or indoor decor can be a problem. Azaleas, rhododendron and mountain laurel, delphiniums and lily-of-the-valley, philodendron and tulips all pose a threat if ingested.
5. Often, a plant, or plant part, that can cause a mild or insignificant reaction in a health adult can cause a serious problem for a child, the frail elderly or someone with chronic health problems.
6. There can also be the danger from a reaction with medications, chemical sensitivity or allergy.

The actual number of people adversely reacting to plants considered dangerous is very small. Fatalities are extremely rare and usually connected with other health problems. Far more people

die each year in from insect stings, rattlesnake bites, household chemicals or food poisoning than dangerous plants.

The following is a brief list of common plants that can be considered a threat. Either from contact or ingestion. If parts of these plants listed are put in the mouth or swallowed, immediately contact the nearest poison control center for advice. Assume all parts are a threat unless otherwise noted. Many of these plants are commonly used as medicinal herbs and can be beneficial in some situations, when properly prepared and used by professionals in the field. When we consider the danger we must keep in mind that quantity can be a factor. A bottle of aspirin can be deadly if swallowed at all at one time.

We compiled the following list, not to discourage you from gardening, or even growing these plantson the windowsill, but to inform you of the risk, so that they can be grown where contact can be controlled. We have included botanical names and brief notes to help guide your identification and risk.

Categories of toxicity

Based on data from the University of California https://ucanr.edu/sites/poisonous_safe_plants/ and several other sources. We used the University of California numerical classification system on the dangerous plants as follows.

1. Major Toxicity: These plants may cause serious illness, possibly life threatening, depending on age and health. If ingested, immediately call the Poison Control Center (800) 222-1222 or your nearest hospital. If a pet or livestock has eaten one of these plants contact your veterinarian.

2. Minor Toxicity: Ingestion of these plants may cause minor illnesses such as vomiting or diarrhea. Those who are ill, aged or small children may have far morer serious reactions. If ingested, call the Poison Control Center or nearest hospital. If a pet or livestock has eaten one of these plants contact your veterinarian.

3. Oxalates: The juice or sap of these plants contains oxalate crystals. These needle-shaped crystals can irritate the skin, mouth, tongue, and throat, resulting in throat swelling, breathing difficulties, burning pain, and gastric distress.

4. Dermatitis: The juice, sap, or thorns of these plants may cause a skin rash or irritation. Wash the affected area of skin with soap and water as soon as possible after contact. Some rashes may be allergy reactions, but inflamation, blisters or intense itching can be more serious.

Call the Poison Control Center or your doctor if irritating or painful symptoms appear following contact with the plants, or if there is ingestion of plant parts not commonly found on the dinner table. Pets can also be poisoned by nibbling on fallen leaves or flowers of azaleas, lilies and many other plants. If there is a question contact your veterinarian for advice.

Many of the holiday plants such as azaleas, lilies. Tulips, daffodils and mistletoe ane toxic to people and pets. So are many of the common house plants such as philodendrons, sag palms and some succulents, including those in the *Euphorbia* family, may cause skin irritation from contact and gastric distress if ingested.

We have highlighted the most dangerous plants for children, the frail elderly and the pets on your life. Again, this is by no means a complete list.

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Some common dangerous and toxic plants

Common name	Scientific name	Toxicity classification
Achillea	Achillea millefolium	2,4
Aconite	**Aconitum spp.**	**1**
African boxwood	Myrsine africana	2
Agapanthus	Agapanthus spp.	2,4
Ailanthus	Ailanthus altissima	2,4
Alder	Alnus spp.	4
Alocasia	Alocasia spp.	3,4
Alstroemeria	Alstroemeria spp.	2,4
Amaryllis	Hippeastrum spp.	2
Anemone	Anemone spp.	2,4
Angel's trumpet	**Brugmansia spp.**	**1 also our native datura (Jimsonweed)**
Anthurium	Anthurium spp.	3,4
Aralia, Ming	Polyscias spp.	2,4
Arborvitae	Thuja spp.	2,4
Arrowhead plant	Syngonium podophyllum	3
Ash	Fraxinus spp.	4
Aster	Aster spp.	4
Aucuba, Japanese	Aucuba japonica	2
Autumn crocus	**Colchicum autumnale**	**1,4**
Azalea	**Rhododendron spp.**	**1**
Baby's breath	Gypsophila paniculata	4
Balsam fir	Abies balsamea	4
Barberry	Berberis species	2,4
Belladonna	**Atropa belladonna**	**1**
Belladonna lily	Amaryllis belladonna	2,4
Bermuda grass	Cynodon dactylon	4
Birch tree	Betula spp.	2,4
Bird-of-paradise shrub	Caesalpina gilliesii	2
Bishop's weed	Ammi majus	4
Bittersweet	Celastrus scandens	2
Bleeding heart	Dicentra spp.	4
Blood lily	Haemanthus spp.	2,4
Boston ivy	Parthenocissus spp.	3,4

Bougainvillea	Bougainvillea spp.	4	
Boxwood	Buxus sempervirens	2,4	
Broom	Cytisus spp.	2	
Buckeye	Aesculus spp.	2	
Buckthorn	Rhamnus spp.	2,4	
Burning bush	Euonymus spp.	2	
Buttercup	Ranunculus spp.	2,4	
Caladium	Caladium bicolor	3,4	
Calla lily	Zantedeschia aethiopica	3,4	
Candytuft, Evergreen	Iberis sempervirens	4	
Cape plumbago	Plumbago auriculata	4	
Cardinal flower	**Lobelia spp.**	**1,4**	
Carolina jessamine	**Gelsemium sempervirens**	**1,4**	
Castor bean	**Ricinus communis**	**1**	
Cestrum	**Cestrum spp.**	**1**	
Chamomile	Chamaemelum nobile	4	
Checkered lily	**Fritillaria meleagris**	**1**	
Chenille plant	Acalypha spp.	2,4	
Chinaberry	**Melia azedarach**	**1**	
Chinese evergreen	Aglaonema spp.	3,4	
Chinese lantern	**Physalis spp.**	**1**	
Chinese tallow tree	Sapium sebiferum	4	
Chokecherry	**Prunus virginiana**	**1**	**most dangerous to pets**
Christmas rose	**Helleborus spp.**	**1,4**	
Cineraria	Senecio hybridus	2,4	
Clematis	Clematis spp.	2,4	
Climbing lily	**Gloriosa spp.**	**1**	
Clivia, Kaffir lily	Clivia spp.	2,4	
Columbine	Aquilegia spp.	2	
Copperleaf	Acalypha spp.	2,4	
Coral plant	Jatropha spp.	2,4	
Coralberry	Symphoricarpos spp.	2	
Cotoneaster	Cotoneaster spp.	2	
Crinum lily	Crinum spp.	2,4	
Crocus, Autumn	**Colchicum autumnale**	**1,4**	
Croton	Codiaeum variegatum	2,4	
Crown of thorns	Euphorbia spp.	2,4	
Cyclamen	Cyclamen spp.	2,4	
Daffodil (bulb)	Narcissus spp.	2,4	
Daphne	**Daphne spp.**	**1**	
Deadly nightshade	**Atropa belladonna**	**1**	
Deadly nightshade	**Hyoscyamus niger**	**1**	
Deadly nightshade	**Solanum spp.**	**1**	

Death camas	**Zigadenus spp.**	**1**	
Delphinium	**Delphinium spp.**	**1**	
Desert bluebells	Phacelia spp.	4	
Dichondra	Dichondra micrantha	4	
Dieffenbachia	Dieffenbachia spp.	3	
Dogwood	Cornus spp.	4	
Dumb cane	Dieffenbachia spp.	3	
Dusty miller	Senecio spp.	2,4	(some spp.)
Dutch iris	Iris spp.	2,4	
Echium	Echium vulgare	1,4	
Elderberry	**Sambucus spp.**	**1**	**ripe fruit is nontoxic**
Elephant's ear	Alocasia spp.	3,4	
English yew (seeds)	**Taxus baccata**	**1**	
Eucalyptus	Eucalyptus spp.	2,4	
Euonymus	Euonymus spp.	2	
Euphorbia	Euphorbia spp.	2,4	
Evergreen candytuft	Iberis sempervirens	4	
False heather	Cuphea hyssopifolia	4	
Fir, Balsam	Abies balsamea	4	
Firetail	Acalypha spp.	2,4	
Firethorn	Pyracantha spp.	2,4	
Flax	Linum usitatissimum	4	
Four-o'clock	**Mirabilis jalapa**	**2,4**	**Seeds are toxic**
Foxglove	**Digitalis purpurea**	**1**	
Frangipani	Plumeria rubra	4	
Gladiolus	Gladiolus spp.	2,4	
Glory lily	**Gloriosa spp.**	**1**	
Goldenchain tree	Laburnum anagyroides	2	
Gopher plant	Euphorbia spp.	2,4	
Groundcherry	**Physalis spp.**	**1**	**also horse nettle and other related native plants**
Ground ivy	Glechoma hederacea	2	
Guernsey lily	Nerine spp.	2,4	
Gum, Blue	Eucalyptus spp.	2,4	
Heart leaf	Philodendron spp.	3,4	
Heather	**Calluna vulgaris**	**1**	
Heliotrope	**Heliotropum arborescens**	**1**	
Hellebore	**Helleborus spp.**	**1,4**	
Hemlock, Poison	**Conium maculatum**	**1**	
Hemlock, Water	**Cicuta spp.**	**1**	
Henbane, Black	**Hyoscyamus niger**	**1**	
Holly (berries)	Ilex spp.	2	
Horsechestnut	Aesculus spp.	2	

Hyacinth	**Hyacinthus orientalis**	**2,4**	
Hydrangea	Hydrangea spp.	1,4	
Iceland poppy	Papaver nudicaule	3,4	
Iris	Iris spp.	2,4	
Jack-in-the-pulpit	Arisaema triphyllum	3,4	
Japanese aucuba	Aucuba japonica	2	
Japanese pieris	**Pieris japonica**	**1**	
Japanese yew (seeds)	**Taxus spp.**	**1**	
Jatropha	**Jatropha spp.**	**2,4**	
Jequirity bean	**Abrus precatorius**	**1**	
Jerusalem cherry	**Solanum pseudocapsicum**	**1**	
Jessamine	**Cestrum spp.**	**1**	
Jessamine, Carolina	**Gelsemium sempervirens**	**1,4**	
Jimson weed	**Brugmansia spp.**	**1**	
Jonquil (bulb)	**Narcissus spp.**	**2,4**	
Laburnum	Laburnum anagyroides	2	
Lantana	**Lantana camara**	**1**	
Larkspur	**Delphinium spp.**	**1**	
Laurel cherry	**Prunus caroliniana**	**1**	
Laurel, English	**Prunus laurocerasus**	**1**	
Laurel, Mountain	**Kalmia latifolia**	**1,2**	
Lenten rose	**Helleborus spp.**	**1,4**	
Ligustrum	Ligustrum spp.	2,4	
Lily, African	Agapanthus spp.	2,4	
Lily, Belladonna	Amaryllis belladonna	2,4	
Lily, Blood	Haemanthus spp.	2,4	
Lily, Checkered	**Fritillaria meleagris**	**1**	
Lily, Climbing	**Gloriosa spp.**	**1**	
Lily, Crinum	Crinum spp.	2,4	
Lily, Glory	**Gloriosa spp.**	**1**	
Lily, Guernsey	Nerine spp.	2,4	
Lily, Peruvian	Alstroemeria spp.	2,4	
Lily, Spider	Lycoris spp.	2	
Lily-of-the-Nile	**Agapanthus spp.**	**2,4**	
Lily-of-the-valley	**Convallaria majalis**	**1,4**	
Lobelia	**Lobelia spp.**	**1,4**	
Locust, New Mexico	**Robinia neomexicano**	**1**	**Seeds are toxic**
Love-in-a-mist	Nigella damascena	2	
Lupine	**Lupinus spp.**	**1**	
Maidenhair tree	Ginkgo biloba	4	
Maple	Acer spp.	4	
Marguerite daisy	Chrysanthemum spp.	2,4	
Marsh marigold	Caltha palustris	2	

Meadow saffron	**Colchicum autumnale**	**1,4**
Ming aralia	Polyscias spp.	2,4
Mistletoe	**Phoradendron spp.**	**2,4**
Mistletoe, European	**Viscum album**	**1**
Monkshood	**Aconitum spp.**	**1**
Morning glory	**Ipomoea spp.**	**1 (seeds)**
Moses-in-the-cradle	Rhoeo spathacea	4
Myrtle	Myrtus communis	2
Naked lady	Amaryllis belladonna	2,4
Narcissus	Narcissus spp.	2,4
Nephthytis	Syngonium podophyllum	3
Nerine	Nerine spp.	2,4
Night-blooming jessamine	**Cestrum spp.**	**1**
Nightshade, Deadly	**Atropa belladonna**	**1**
Nightshade, Black	**Solanum spp.**	**1**
Oleander	**Nerium oleander**	**1,4 (can be dangerous on contact, ingested or inhaling smoke when burned)**
Oleander, Yellow	**Thevetia peruviana**	**1,4**
Pampas grass	**Cortaderia selloana**	**1**
Pasque flower	Anemone spp.	2,4
Pencil tree	Euphorbia spp.	2,4
Peruvian lily	**Alstroemeria spp.**	**2,4**
Philodendron	**Philodendron spp.**	**3,4**
Pieris, Japanese	**Pieris japonica**	**1**
Pittosporum	**Pittosporum spp.**	**1**
Plumbago, Cape	Plumbago auriculata	4
Plumeria	Plumeria rubra	4
Poinciana	Caesalpina gilliesii	2
Poison hemlock	**Conium maculatum**	**1**
Poison ivy and oak	Toxicodendron species	4
Pokeweed	Phytolacca americana	2
Poppy, Iceland	Papaver nudicaule	3,4
Potato plant	**Solanum tuberosum**	**1 (green parts)**
Pothos	Epipremnum aureum	3,4
Pregnant onion	**Ornithogalum spp.**	**1**
Primrose	Primula spp.	4
Privet	Ligustrum spp.	2,4
Pyracantha	Pyracantha spp.	2,4
Ranunculus	Ranunculus spp.	2,4
Rhododendron	**Rhododendron spp.**	**1**
Rhubarb (leaves)	Rheum rhabarbarum	3
Rosary bean	**Abrus precatorius**	**1**
Rue	Ruta graveolens	4

Sago palm	Cycas revoluta	2
Scarlet pimpernel	Anagallis arvensis	2,4
Schefflera	Schefflera actinophylla	2,4
Scotch broom	Cytisus spp.	2
Smoke bush	Cotinus coggygria	4
Snow-on-the-mountain	Euphorbia spp.	2,4
Snowberry	Symphoricarpos spp.	2
Spathiphyllum	Spathiphyllum spp.	3,4
Spider lily	Lycoris spp.	2
Split-leaf philodendron	**Monstera deliciosa**	**3,4**
Squill	**Scilla spp.**	**1**
Star-of-Bethelehem	**Ornithogalum spp.**	**1**
String of beads	Senecio spp.	2,4
Sweet pea (seeds)	Lathyrus odoratus	2
Tansy	Tanacetum spp.	4
Taro	Colocasia esculenta	3,4
Tassel flower	Amaranthus caudatus	1 Allergies
Tomato	**Lycopersicon esculentum**	**1,4 (leaves & stems)**
Tree-of-heaven	Ailanthus altissima	2,4
Trumpet vine	Campsis radicans	4
Tuberose	Polianthes tuberosa	2
Tulip (bulb)	Tulipa spp.	2,4
Umbrella plant	Cyperus alternifolius	2
Umbrella tree	Schefflera actinophylla	2,4
Water hemlock	**Cicuta spp.**	**1**
Windflower	Anemone spp.	2,4
Wisteria	Wisteria spp.	2
Wormwood	Artemisia spp.	4
Yarrow	Achillea millefolium	2,4
Yew, English	**Taxus baccata**	**1 (seeds)**
Yew, Japanese	**Taxus spp.**	**1 (seeds)**