

How to Grow Plants & Start a Garden



Whether it's growing **colorful flowers, delicious fruits, or healthy vegetables**, **gardening** offers several benefits—including lower stress, increased exercise and exposure to vitamin D. Thinking about putting your green thumb to the test? Before you get growing, this guide has all you need to know to cultivate your understanding of how to grow plants.

Seven essential elements to plant growing

What do plants need to grow? While the quantities and conditions vary from plant to plant, they all need these essential ingredients:

1. Light is required for photosynthesis, the process of converting light, water, carbon dioxide, and nutrients into the energy needed to grow.
2. Air is another important component of photosynthesis; plants “breathe in” carbon dioxide and “exhale” oxygen.
3. Water plays an essential role in how plants grow, transporting moisture and nutrients between the roots and leaves. An interesting fact about plants: They’re about 90% water!
4. Nutrients found in the soil (or supplied by a fertilizer)—like nitrogen, phosphorus, and potassium—are vital for everything from growth to fighting disease.
5. Temperature requirements vary, with some plants preferring warmer environments and others favoring cooler conditions.
6. Space is needed for roots, stems, and leaves to grow; without proper room, plants can become small and stunted.
7. Time is often the hardest thing to give a plant. Despite your excitement, they need time to reach maturity.

It's your responsibility to ensure that a plant's needs are met, and those who fulfill their duty are well rewarded.

How to grow indoor plants



Indoor plants can help **improve mood, boost productivity** and **reduce stress**. They also look great and brighten up interior spaces. The secret to growing indoor plants is to create an indoor space that replicates their natural environment. Follow these six tips:

1. Give them light (but maybe not too much). All plants need light to grow, but their needs vary. Some houseplants require an abundance of it, while some plants that grow in the shade can thrive with very little. The light requirements of most plants are found on their label, but telltale signs a plant isn't receiving enough light are:

1. Yellow and dead leaves
2. Smaller-than-normal leaf size
3. Dull-colored new leaves
4. Longer stems

Place plants with high-light needs in south-facing windows and low-light plants in north-facing windows. Some plants and interiors may also require artificial light.

2. Water them. Improper watering is the most common way people kill houseplants. Too much water leads to plant-killing bacteria and fungus, while underwatering can cause wilting, loss of leaves and stunted growth. Skip daily waterings, and encourage root growth with deep, less-frequent watering.

3. Use fertilizer. Because the soil found in potted plants doesn't get the same nutrient replenishment as the ground in your garden, fertilizer is an essential ingredient to happy, healthy houseplants. Check your plant's label for its specific fertilizer needs.

4. Keep it at the right temperature. Most indoor plants hail from tropical and subtropical regions and prefer warmer climates. For the best growth, keep them in temperatures ranging from 65°F to 75°F during the day and ten degrees cooler at night). Temperatures under 50°F can cause problems for many plants.

5. Ramp up the humidity. The tropical and subtropical climates that many houseplants are native to are warm and humid. Most homes have low humidity, but these steps can help improve plant growth:

1. Create a microenvironment by grouping multiple plants close together. They'll humidify each other through transpiration, the evaporation of water through their stems, leaves, and flowers.
2. Place the plant on a humidity tray—a shallow container with pebbles or stones and water.
3. Use a humidifier.
4. Mist houseplants with a spray bottle a few times a day.
5. Perform regular grooming. Remove dead foliage and flowers with clean, extra sharp pruning shears or scissors to allow the healthy parts of the plant to receive more nutrients. Occasionally wipe a houseplant's leaves to remove dust, which can negatively affect their ability to photosynthesize.

How to grow plants outside

Whether you want to dress up your landscaping with **decorative flowers** or brighten up your dinner plates with homegrown vegetables, there are many reasons people choose to plant gardens outside. Learn more about how to create the right environment to keep your outdoor plants healthy and flourishing.

Plant growing zones

Trying to decide what to plant? The United States Department of Agriculture (USDA) can help. The **USDA's Plant Hardiness Zone Map** is the go-to resource to learn about which plants thrive in specific regions. The map is based on average annual minimum temperatures, and a 10-degree Fahrenheit difference defines the areas—the higher the zone number, the warmer the temperatures.

Planting plants with a number corresponding to the USDA's Plant Hardiness Zone Map is a smart strategy for good growth. Plant growing zones are further distinguished with an "a" and "b" designation:

plants with an “a” designation have average winter tolerance to temperatures five degrees cooler than their “b” counterparts.

Raised bed/container vs. in the ground

Where to plant is another big decision when starting a garden. The ground is an obvious answer, but many home horticulturists choose raised beds or containers. **Raised beds** sit on the ground but raise the soil above ground level; containers are enclosed—and often elevated—boxes filled with soil. The benefits of raised beds and containers include:

- **Location:** They can be placed anywhere, like on a deck or patio, and provide maximum control over garden location.
- **Manageability:** The smaller space and fewer weeds of raised beds—along with less bending over—make raised beds easier to care for.
- **Longer season:** The soil in raised beds warms faster than the ground, giving you a jump on the growing season.
- **Drainage:** It’s easier for water to drain from elevated soil, making raised beds a great choice for gardeners in damp climates.
- **Pests:** Containers and raised beds can help keep ground-bound pests like rabbits out of your garden.
- **Aesthetics:** From wood to metal to ceramic, raised beds add character to your landscaping.

The best plants to grow in a raised bed include everything from flowers, such as daffodils and asters, to veggies like carrots, cucumbers, tomatoes, squash and lettuce.

How to grow plants from seeds



Growing plants from seed to maturity is one of the most satisfying tasks a gardener can undertake. Starting seeds indoors is a great excuse to get your hands dirty in advance of the growing season. Follow these ten tips:

1. **Containers:** To avoid competition and injury during transplanting, plant each seed in a small, individual container. Premade planting trays are popular, but any container two to three inches deep with drainage will work—yogurt cups, egg cartons and muffin tins are commonly used by DIYers.
2. **Soil:** Start your seeds in a sterile starting soil mix. Unlike the soil in your garden, sterile starting mixes are porous enough for seeds and free from weeds, disease and pests.
3. **Plant:** The depth a seed is planted affects its growth. The seed packet should provide specific instructions for the seeds it contains. Generally, you'll want to plant seeds two to three times as deep as they are wide.
4. **Label:** When you grow plants in containers, label them to keep track of what's in them. Premade plant labels, popsicle sticks and clothespins all work great.
5. **Cover:** Keep seeds covered with a plastic sheet or bag to trap moisture prior to germination. Remove the cover once the seeds have sprouted.
6. **Moisture:** Keep soil moist but avoid overwatering—more plants die from drowning than dehydration. A good rule of thumb is the soil should feel moist, not wet.
7. **Temperature:** Cold soil can slow or stop germination. Keep your containers in a warm, draft-free area—on top of the refrigerator is a popular place—or use an electric heating mat specifically designed for starting seeds.
8. **Fertilize:** When your seedlings form their first “true leaves” (leaves with the appearance and function of future leaves), it's time to fertilize. Begin with a half-strength application and move to full-strength fertilizing after transplanting the seedlings into your garden.
9. **Light:** Growing plants indoors with artificial light is necessary for many; seedlings need up to 18 hours of light a day, which is commonly more than Mother Nature can provide. Fluorescent light fixtures and a timer make regulating light easy. Consider adding a fan to improve air circulation, too.
10. **Harden off:** Acclimating plants to the outdoors—known as “hardening off”—is essential before transitioning them to your garden. Start slow and increase the amount of time and sun they're exposed to daily.

A seed starting kit provides everything you need to successfully grow plants from seeds and can help make the process easier for both green and seasoned planters.

How to grow plants with cuttings

Propagating plants is a favorite trick of savvy gardeners—it's an inexpensive way to increase their number of plants and share favorites with friends and family. Growing plants from cuttings is simple when you follow these steps:

1. **Pick a plant:** The ideal plant to take cuttings from is healthy, hydrated and has plenty of new growth.
2. **Select a cutting:** A three- to six-inch section of newer growth with at least two leaves and a node generally yields the best results. Nodes are bumps on a stem where the new roots will grow from.
3. **Cut:** Snip just below a node using a very sharp and clean pair of shears, scissors or a knife. Dull blades can crush (not cut) stems and encourage rot, while dirty blades can introduce disease.
4. **Prepare:** Clip leaves from the bottom of the cutting, leaving just one or two near the top for photosynthesis. Flowers or buds will use energy better devoted to growth, so remove any from the cutting.
5. **Rooting hormone:** A rooting hormone isn't necessary but can produce great results, as it stimulates cuttings to grow roots. Fill a separate container with root hormone to dip the nodes into. (Never dip directly into your supply of root hormone, as it can lead to contamination.)
6. **Potting:** Most plants grow best when placed in good-draining containers filled with a moist soil-less rooting medium, such as potting mix, perlite, vermiculite, or sand. Some soft-stemmed plants will root in a glass or jar of water, but successfully transferring water-rooted cuttings to soil is often challenging.
7. **Plant:** Use a pencil to make a hole in the potting mix and insert the cutting between one-third to one-half of its length.
8. **Maintenance:** Place the container and the cutting in a plastic bag or cover with a plastic sheet to seal in humidity and hold heat. Place it in a bright spot, but avoid direct sun. Periodically check the potting mix and keep it damp. If you rooted in water, change the water every three to five days.
9. **Wait:** Different plants grow at different rates. In general, it takes a month or two for cuttings to mature enough for planting. Once the roots are between two and five inches long, transfer them to a larger pot or their permanent location.

The fastest path to a green thumb is recognizing that plants are alive and dependent on you for their care. In addition to keeping plants fed and watered, they need attention based on the signals they give. For example, yellow and droopy leaves, soggy soil and bending toward light all communicate a plant's needs. Pick up on these cues, and you'll be on the path to happy, healthy and productive plants.

