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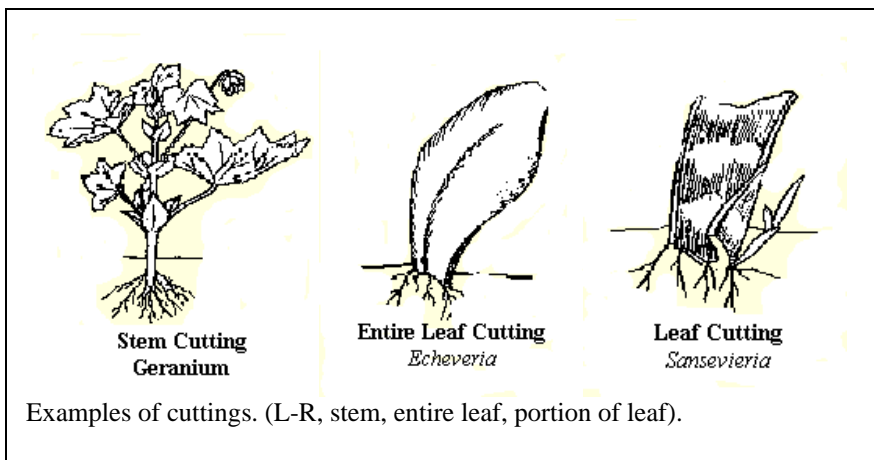
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Propagation of Houseplants

Numerous techniques can be used to propagate plants in the home. Some plants grown especially for their flowers or fruits can be started from seed. Geranium, fuchsia, African violet, Christmas cherry and Christmas pepper are examples. Starting flowers from seed is discussed in another Cornell extension bulletin; this publication deals with methods of propagating houseplants by cuttings and division. Many plants respond to two or more methods; others can be propagated in only one way.

Cuttings: Plants such as coleus, geranium, ivy, philodendron, everblooming begonia, cactus and wax plant are propagated by rooting a vigorous terminal or lateral shoot from the parent plant. These are commonly called stem cuttings or slips.

Sedum, *Echeveria* and *Sansevieria* are commonly propagated by rooting an entire leaf from which new plants will develop. *Sansevieria* and palmleaf begonia leaves can be cut into sections, each of which produces a new plant.

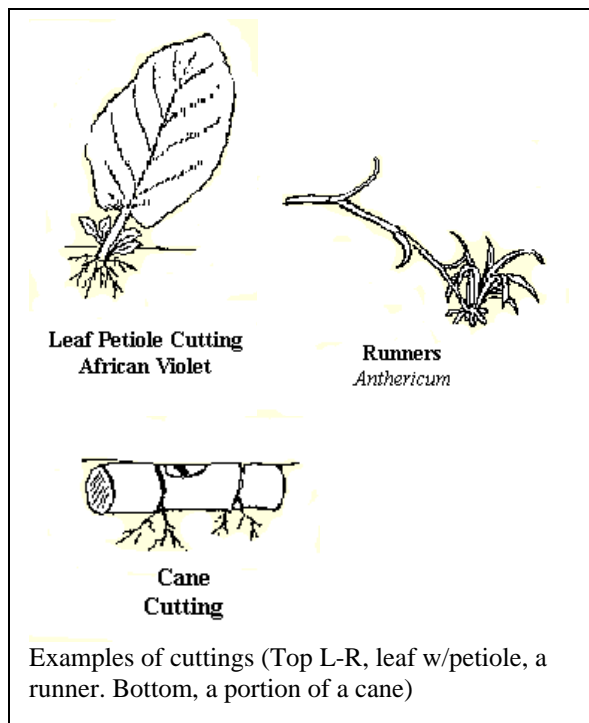


A leaf with its stem or petiole is required for rooting African violet, gloxinia, and Rex begonia. For Rex begonia, a leaf is pinned flat on the soil surface and the leaf stem inserted in the rooting medium.

Philodendron, *Scindapsus*, wax plant and similar plants can be propagated from a leaf containing a bud in the axil on the leaf. Leaf-bud cuttings are made by dividing the main stem into sections with a leaf on each.

A few plants send out runners to form new plants; strawberry begonia and *Episcia* have this characteristic. The small plants can be pinched off and rooted.

Plants such as Chinese evergreen, *Dieffenbachia* and *Dracaena* that develop cane-like stems can be propagated by cane cuttings. The cane remaining at the base of the plant after the older leaves drop off is cut into sections. Between the circular rings or leaf scars are dormant buds. The cane is cut with at least two leaf scars on each section. The piece is laid horizontally under the soil surface with the dormant eye facing upward. This eye eventually will sprout and form a new plant.



Large, woody-stemmed plants such as rubber plant, fiddle leaf fig, *Croton* and *Schefflera* are air-layered by cutting the stem half through and holding the cut open with a small wedge; or the stem may be girdled by scraping a half-inch band. Moist sphagnum moss is bound in a ball around the cut and covered with plastic. The plastic is bound tightly to the stem with rubber friction tape to make an air-tight ball the size of an orange. Because the stem is not completely severed, the top continues to get nutrients and moisture from the original roots. New roots form in the ball of moss. When they are visible through the plastic, the plant is severed just below the new root zone and potted. If tall, woody-stemmed plants become unsightly from loss of lower foliage, they may be air-layered just below the remaining leaves to produce a more compact plant. The remaining leggy stalk may be cut back to reduce the height, and new shoots will develop to form another plant.

Division: Plants such as ferns, certain African violets, prayer plant and everblooming begonia form clumps. These clumps can be separated into several smaller plants as pots become crowded. The root ball must be broken apart, but as much soil as possible should be left on the root masses to prevent injury to the root hairs.

Rooting Media: A mixture of half sand and half peat moss is an ideal rooting medium for use in homes. The peat moss holds moisture and prevents rapid drying.

Vermiculite also can be used for rooting cuttings. This expanded mica is sterile, clean and easy to handle. Because it holds moisture, cuttings root easily. The horticultural vermiculite available at garden supply stores is recommended; insulation-type vermiculite is often treated with toxic materials that are harmful to plant growth. Perlite, a rooting medium of a volcanic origin, is a sterile material that is composed of small particles. It should be combined equally with peat moss. Some cuttings root easily in water. In the wintertime when plants root slowly, however, sand and peat moss, vermiculite, or perlite and peat moss give better results because cuttings may rot in water before they develop good roots.

Containers for Cuttings: Cuttings may be rooted in regular flower pots, boxes or flats. A forsythe pot gives unusually good results; it is made with two pots, one about two inches in diameter and the other about six to eight inches in diameter. Rooting media is put into the large pot. Plug the drainage hole of the small pot and set it in the center of the larger one, level with the edge. The small pot is filled with water that seeps into the rooting media where the cuttings have been inserted.

Cuttings also may be rooted in a wick-watered pot. The constant moisture supply prevents the tender, newly formed roots from drying.

Another method is to place cuttings in a small amount of the rooting medium in a large, covered glass jar or terrarium. Cuttings root quickly in the moist, protected enclosure.

Cuttings can also be rooted in a plastic bag. Place three to four inches of moistened rooting medium in the bag, insert the cuttings, and fasten the bag with a twist of wire or a rubber band. It maybe helpful to blow up the bag like a balloon before closing it. As with a glass jar or a terrarium, the plastic bag should be placed in sufficient light; avoid direct sunlight because excess heat will develop. Because the bag is a closed system, there is no need to add water.

Cuttings of woody-stemmed plants may be rooted more easily by using a root-inducing hormone. Several commercial powders or liquids are available. To encourage better rooting, the ends of the cuttings are dipped or powdered with the chemical before being inserted in the rooting medium.

Reprinted from *Propagation of House Plants*, by C.C. Fischer and R.T. Fox, Cornell University, August 1969.

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