



William T. Kemper Center for Home Gardening

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Indoor Plants or Houseplants

Over the past twenty years houseplants have grown in popularity. Offered in a wide variety of sizes, shapes, colors and textures, houseplants beautify our homes and help soften our environment. They have been scientifically proven to improve our health by lowering blood pressure and removing pollutants from the air we breathe.

When selecting a houseplant, choose reputable suppliers who specialize in growing houseplants. Get off to a good start by thoroughly examining each plant. Watch for brown edges and spindly growth with elongated stems and large gaps between new leaves. Inspect leaves and stem junctions for signs of insect or disease problems. Check any support stakes to make sure they are not hiding broken stems or branches. Finally, make sure the plant is placed in an area that suits its optimal requirements for light, temperature and humidity.

Where to Place Your House Plants

With the exception of the very darkest areas, you can always find a houseplant with growth requirements to match the environmental conditions in your home. The most important factors are light intensity and duration. The best way to determine the intensity of light at a window exposure area is to measure it with a light meter. A light meter measures light in units called foot-candles. One foot-candle is the amount of light from a candle spread over a square foot of surface area.

Plants that prefer low light may produce dull, lifeless-looking leaves when exposed to bright light. Bright light can also cause leaf spots or brown-tipped scorched margins. Conversely, not enough light can cause slow, spindly growth and the development of small pale leaves. Plants may not flower. If they do, the buds may drop, or the flowers may fade quickly. Variegated leaves often revert to being completely green.

Window Exposures

When selecting indoor plants for the home, first consider the characteristics of the location; the amount and duration of light all year long. Often you will see plants classified according to whether they prefer low, indirect or direct light.

Low light conditions are those which receive 25 to 100 foot-candles of light intensity and never any direct light. This characterizes the northern window for most of the year and distances of beyond eight feet for the other directional exposures.

Indirect light exposures receive 100 to 300 foot-candles of light intensity for periods of two but less than five hours each day. This condition is typical for the east and west-facing windows and at least two feet away from the window sill of a southern exposure.

Generally, the west window receives higher light intensity and becomes hotter than an east window. The western exposure would be characterized as having indirect light through the morning and early afternoon. Later in the day, direct light would penetrate the window exposure from four to six hours depending upon exterior obstructions and the time of year.

The eastern exposure is characterized by indirect lighting for the majority of the day and through spring, fall and winter. In the late spring, summer and early fall, constant direct light would penetrate the window. The east window is a good site for many flowering plants that do well under cool conditions.

Southern exposures receive the greatest amount of direct light. Direct light exposures receive between 300 and 1000 foot-candles of light intensity and about five hours of direct sun. Few plants can survive the light and heat intensity of this exposure with the exception of cacti and succulents.

Temperature and Humidity

A second factor often interrelated to light exposure is temperature. Generally, the temperature of the house governs this but a southern or western window exposure can become quite hot because of the sunlight penetration and lack of air movement. Danger signs that conditions are too warm are wilting lower leaves with brown margins, short-lived flowers and spindly growth. Conversely, keep your plants away from air conditioning vents in the summer. Sudden temperature fluctuations can cause rapid yellowing, dropping leaves. Curling leaves that turn brown and drop also indicate that it is too cold.

Nearly all houseplants prefer a humidity level of 50% or more. Houseplants may suffer, especially during the winter, from a lack of humidity. A simple method to increase the humidity is to place plants in a pebble tray. This is a tray lined with pebbles and filled with enough water to reach to just below the pebble's surface. The water evaporates from the tray up into the air around the plants increasing the relative humidity.

Watering and Fertilizing

To determine your plant's water need, simply stick your index finger into the soil. Most plants are ready for water if they are dry one-inch down from the surface of the soil. To water properly, most plants prefer a really thorough drink with tepid water. Moisten the soil completely until the water is coming out of the bottom of the pot. Do not let the plant sit in this drainage water.

Overwatering is one of the most common causes of houseplant problems. Overwatering can cause leaf spots which are soft and dark brown. It can also cause lower leaves to yellow and drop. Overwatered plants may look wilted. Both stems and leaves may rot. Overwatering can also cause houseplants to grow slowly and flowers to fade quickly and drop.

Too little water can cause leaf spots that are brown and brittle or blighted leaf margins. Lower leaves may turn completely brown, dry up and drop off. Flower buds may fall off or the plant may produce no flowers at all.

All houseplants need adequate amounts of food to grow. Look for a balanced plant food with an N-P-K analysis like 10-10-10. Feeding should be done only while the plant is actively growing or flowering. Three feedings during the growing season, starting in April and extending through June, is usually sufficient. The most commonly used plant foods are dissolved in water. Some gardeners prefer the encapsulated, slow-release fertilizers that may be sprinkled on the soil surface or worked into the soil.

Over-fertilizing plants can cause brown, crisp leaf margins. Flowers may not develop on overfed plants. A white mineral crust on the outside of clay pots or on the soil surface is a sure fire sign that the plant is being over fertilized.

Grooming Your House Plant

Removing any shriveled or discolored leaves and cleaning dust from your house plant will not only make it look more attractive; it also allows the plant to function more effectively. Leaves can be cleaned with a soft cloth while supporting the leaf with one hand. Some gardeners use commercial leaf shiners. They should be used with care and in moderation. Liquid shiners should be applied with a soft cloth and never applied directly onto the plant. Monthly applications are more than sufficient.

Some plants can benefit from an actual rain shower. Smaller plants can be washed by placing your hand over the top of the pot to keep the soil from falling out, inverting the plant, immersing it in a solution of mild soapy water and swirling it around for a few seconds. This is especially good if you suspect insect problems.

Some houseplants can get out of hand and deteriorate if not regularly pruned. Pruning can modify and redirect growth, improve structure, reduce size, as well as remove diseased branches and foliage. Prune with sharp clean scissors or scissor action pruners. Stems can be removed to open up the plant. New growth will be generated in the remaining stems or from the plant's base. Stems pruned above a leaf or a growth bud will develop one or more new tips making the plant appear denser.

One simple technique to control growth is by pinching back the growth tip with your thumb and forefinger. Pinching is really pruning on a small scale. Pinching back the young growing tip causes the plant to branch out below the pinch, promoting new growth and a fuller plant.

Repotting

Plants in pots up to 10 inches in diameter should be repotted annually. Large container plants should be repotted every 2 years. This prevents the plant from becoming pot-bound. Pot-bound plants have very slow leaf and stem growth. The soil dries out quickly even with frequent watering and roots may begin to grow out of the drainage hole.

Move your plant to a container that is only slightly larger. Tip the plant out of its existing container using your open hand for support. Tease some of the roots away from the root ball and trim off long roots that are twining. Place the plant in the new pot and fill it in with moistened potting soil. Water carefully and place the plant in the shade. Wait for 2-3 weeks, and then move the plant back to its permanent quarters.

Diseases and Pests

Spots, rots, wilts and mildews on your houseplant are symptoms of disease. It is important to identify the problem correctly so it can be treated effectively. Black shriveled sections of stem just above the soil line may indicate a disease called blackleg caused by a fungus. Soft, slimy stems with black or brown decayed areas can be symptoms of crown rot, also caused by a fungus. Brown leaf spots which grow and merge can be either bacterial or fungal leaf spot diseases. If any of these symptoms occur, a recommended treatment includes destroying infected leaves, using a fungicide and modifying cultural practices.

There are a variety of pests which plague houseplants. Identify the pest and apply the appropriate remedy as soon as the first symptoms appear. Repeated treatments may be required to break the life cycle of overlapping generations of most of these insects.

Aphids are small sap-sucking insects, usually green, black or orange found on new, succulent growth. They cause discoloration and distortion of the leaves and secrete sap called honeydew which can encourage black fungal growth on leaves.

Mealybugs appear as small white cottony tufts in clusters on the stems and underside of leaves. Mealybugs cause wilting, yellowing and leaf drop.

Scale looks like small, brown discs commonly attached to the underside of leaves along the veins and on the stems where they suck sap. Plant vigor will decrease, leaves will yellow and black fungal growth may develop on honeydew secretions.

Spider mites, which are also sap-sucking pests, proliferate in hot, dry conditions. Infested leaves develop yellow mottling and blotching and drop prematurely. You may find fine webbing on the leaves.

Whitefly is a small, white, moth-like insect that can spread rapidly. Greenish larvae suck sap on the underside of the leaves which then turn yellow and drop. When the plant is disturbed, the winged insect can be seen flying out of the foliage.

Cacti and Succulents as Houseplants

A group of plants called succulents that have either fleshy stems and/or leaves are often chosen as houseplants for direct light conditions. Their ability to endure drought is reflected in the succulent leaf/stem condition where water is stored. These plants come from many plant families; most notably the cactus family. Others in this group come from sub-tropical areas where light conditions are less extreme and moisture is more abundant. This group is referred to as the jungle cacti and includes the Christmas, Thanksgiving and Orchid cacti.

Cacti and succulents generally require at least 4 hours of bright, direct light each day. However, some including the jungle cacti, prefer medium light and should only receive direct light in winter.

Most cacti and succulents tolerate the low humidity and warmth of the home. Jungle cacti require higher humidity and should be placed on a tray of moistened pebbles or rocks. Some cacti will do better if presented with a rest period during the winter. Provide these plants with cool conditions and as bright light as possible. Window sill and cool basements are good sites for these plants.

The most frequent cause of problems with cacti is due to overwatering. To water cacti, check the moisture level by sticking the index finger into the soil. Generally, cacti will need watering every 2 to 3 weeks during the growing season and once a month in during the winter. It is best to allow the soil to dry out between waterings.

Jungle cacti should be kept evenly moist all year around, especially during the flowering period of late fall or early spring. When flowering has stopped, water should be withheld to allow the top of the soil to dry out before waterings.

Cacti and Succulents Commonly Used as Houseplants - South Window

Common Name	Scientific Name
Star Cactus	<i>Astrophytum</i> spp.
Old Man Cactus	<i>Cephalocereus senilis</i>
Hedge Cactus	<i>Cereus</i> spp.
Rosary Vine	<i>Ceropegia woodii</i>
Cleistocactus	<i>Cleistocactus</i> spp.
Jade Plant	<i>Crassula portulacea</i>

Mexican Firecracker	<i>Crassula argentea</i>
Barrel Cactus	<i>Echeveria elegans</i>
Rainbow Cactus	<i>Echinocactus</i> spp.
Easter Lily Cactus	<i>Echinocereus dasyacanthus</i>
Crown-of-Thorns	<i>Echinopisi</i> spp.
Old Lady Cactus	<i>Euphorbia milii</i>
Snowball Cactus	<i>Mammillaria</i> spp.
Silver Cluster Cactus	<i>Mammillaria bocasana</i>
Rose Pincushion	<i>Mammillaria proifera</i>
Prickly Pear	<i>Mammillaria zeilmanniana</i>
Crown Cactus	<i>Opuntia microdasys</i>
Stonecrop	<i>Rebutia</i> spp.
Old Man Cactus	<i>Sedum</i> spp.
Spider Cactus	<i>Cephalocereus sensillis</i>
Chain Cactus	<i>Gymnocladium denudatum</i>
Torch Plant	<i>Rhipsalis</i> spp.
Tiger Aloe	<i>Aloe aristata</i>
Kalanchoe	<i>Aloe variegata</i>
String-of-beads	<i>Kalanchoe</i> spp.
Donkey's Tail	<i>Senecio rowleyanus</i>
Living Stones	<i>Sedum morganianum</i>
	<i>Lithops</i> spp.

Plants for Indirect Light Conditions - West Window

Common Name	Scientific Name	Child/Pet Safe	Soil Moisture		Temperature	
			Wet	Dry	Cool	Warm
Aloe	<i>Aloe</i> spp.	N		X	X	
Vase Plant (Flowering)	<i>Aechmea miniata discolor</i>	S		X		X
Urn Plant (Flowering)	<i>Aechmea fasciata</i>	S		X		X
Queen's-tears	<i>Billbergia nutans</i>	S		X		X
Earth-star	<i>Cryptanthus</i> spp.	S	X			X
Blushing Bromeliad	<i>Neoregelia carolinae</i>	U		X		X
Tillandsia	<i>Tillandsia cyanea</i>	U		X		X
Cacti	Many genera	N		X		X
Citrus	Many spp.	N	X		X	
Croton	<i>Codiaeum variegatum</i>	N		X	X	
Ti Plant	<i>Cordyline terminalis</i>	S		X	X	
Jade Plant	<i>Crassula argentea</i>	S		X	X	
Sago Palm	<i>Cycas revoluta</i>	N	X			X
False Aralia	<i>Dizygotheca elegantissima</i>	S	X			X
Poinsettia	<i>Euphorbia pulcherrima</i>	U	X			X
Gardenia (Flowering)	<i>Fardenia jasminoides</i>	U	X			X
English Ivy	<i>Hedera helix</i>	N	X		X	
Amaryllis (Flowering)	<i>Hippeastrum</i> hybrids	N	X		X	

New Guinea Impatiens (Flowering)	<i>Impatiens</i> hybrids	U	X		X	
Geranium (Flowering)	<i>Pelargonium x hortorum</i>	U	X		X	
Avocado	<i>Persea americana</i>	N	X			X
Azalea (Flowering)	<i>Rhododendron indica</i>	N	X		X	
Christmas Cactus (Flowering)	<i>Schlumbergera bridgesii</i>	S	X			X
Bird-of-Paradise	<i>Strelitzia reginae</i>	N		X	X	
Spineless Yucca	<i>Yucca elephantipes</i>	N		X	X	
Wandering Jew	<i>Zebrina</i> hybrids	S		X	X	
Fishtail Palm	<i>Caryota urens</i>	N	X			X
Areca Palm	<i>Chrysalidocarpus lutescens</i>	S	X			X
Pleomele	<i>Dracaena reflexa</i>	S		X		X
Bloodleaf	<i>Iresine herbstii</i>	U	X			X
Screw Pine	<i>Pandanus veitchii</i>	N		X		X
Polyscias	<i>Polyscias balfouriana</i>	N	X			X
Chrysanthemum (Flowering)	<i>Chrysanthemum</i> spp.	U	X		X	
Lily (Flowering)	<i>Lillium</i> spp.	N	X		X	
Primrose (Flowering)	<i>Primula</i> spp.	N	X		X	
Kalanchoe (Flowering)	<i>Kalanchoe blossfeldiana</i>	U	X			X
Hibiscus (Flowering)	<i>Hibiscus</i> spp.	S	X			X
Exacum (Flowering)	<i>Exacum affine</i>	N	X			X
Wood Sorrel	<i>Oxalis</i> spp.	N		X		X
Passion Vine	<i>Gynura aurantiaca</i>	S		X		X

S = Suitable for homes with children and pets; N = Not suitable for homes with children and pets; U = Unknown; Flowering = a flowering plant

Plants for Indirect Light Conditions - East Window

Common Name	Scientific Name	Child/Pet Safe	Soil Moisture		Temperature	
			Wet	Dry	Cool	Warm
Norfolk Island Pine	<i>Araucaria heterophylla</i>	S	X		X	
Asparagus Fern	<i>Asparagus setaceus</i>	U	X		X	
Rex Begonia (Flowering)	<i>Begonia x rex-cultorum</i>	N	X		X	
Cattleya Orchids (Flowering)	<i>Cattleya</i> spp.	N		X	X	
Spider Plant (Flowering)	<i>Chlorophytum comosum</i>	S	X			X
Yellow-leaf Dumb Cane	<i>Diffenbachia maculata</i>	N		X		X
Pothos	<i>Epipremnum aureum</i>	N		X		X
Japanese Fatsia	<i>Fatsia japonica</i>	U	X		X	

Weeping Fig	<i>Ficus benjamina</i>	S	X			X
India Rubber Plant	<i>Ficus elastica</i>	S	X			X
Prayer Plant	<i>Maranta leuconeura</i>	N	X			X
Boston Fern	<i>Nephrolepis exaltata</i>	S	X		X	
Aluminum Plant	<i>Pilea cadierei</i>	S	X			X
Staghorn Fern	<i>Platycerium</i> spp.	S	X			X
African Violets (Flowering)	<i>Saintpaulia ionantha</i>	S	X			X
Dwarf Schefflera	<i>Schefflera arboricola</i>	N		X		X
Piggyback Plant	<i>Tolmiea menziesii</i>	S	X		X	
Spiderwort	<i>Tradescantia</i> spp.	S		X		X
Maidenhair Fern	<i>Adiantum raddianum</i>	S	X		X	
Umbrella Tree	<i>Brassaia actinophylla</i>	N		X	X	
Peacock Plant	<i>Calathea makoyana</i>	N	X			X
Fishtail Palm	<i>Caryota urens</i>	N	X			X
Areca Palm	<i>Chrysalidocarpus lutescens</i>	S	X			X
Coffee Tree	<i>Coffea arabica</i>	N	X		X	
Umbrella Plant	<i>Cyperus</i> spp.	N	X		X	
Fatshedera	<i>Fatshedera lizei</i>	N	X		X	
Wax Plant	<i>Hoya carnosa</i>	N		X		X
Fan Palm	<i>Livistona chinensis</i>	N	X			X
Podocarpus	<i>Podocarpus marcophyllus</i>	N	X		X	
Polyscias	<i>Polyscias balfouriana</i>	N	X			X
Lady Palm	<i>Rhapis excelsa</i>	S	X		X	
Oyster Plant	<i>Rhoeo spathacea</i>	N		X	X	
Pigmy Date Palm	<i>Phoenix roebelenii</i>	N	X		X	
Flame Flower (Flowering)	<i>Episcia</i> spp.	N	X			X
Fuchsia (Flowering)	<i>Fuchsia</i> spp.	U	X		X	
Streptocarpus (Flowering)	<i>Streptocarpus</i> spp.	U	X		X	
Pocketbook Plant (Flowering)	<i>Calceolaria</i> hybrids	N	X		X	
Gloxinia (Flowering)	<i>Gloxinia</i> spp.	S	X			X
Shrimp Plant (Flowering)	<i>Aphelandra squarrosa</i>	S	X			X
Cyclamen (Flowering)	<i>Cyclamen persicum</i>	N	X		X	
Elephant's Ears	<i>Caladium</i> spp.	N	X			X
Mother-of-Thousands	<i>Saxifraga stolonifera</i>	N	X			X

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Plants for Low Light Conditions - North Window

Common Name	Scientific Name	Child/Pet Safe	Soil Moisture		Temperature	
			Wet	Dry	Cool	Warm
Cast Iron Plant	<i>Aspidistra elatior</i>	S	X	X	X	X
Chinese Evergreen	<i>Aglaonema modestum</i>	N	X			X
Screw Pine	<i>Pandanus veitchii</i>	N		X		X
Parlor Palm	<i>Chamaedorea elegans</i>	S	X			X
Grape Ivy	<i>Cissus rhombifolia</i>	U		X	X	
Corn Plant	<i>Dracaena fragrans</i>	N		X		X
Striped Dracaena	<i>Dracaena deremensis</i>	N		X		X
Baby Rubber Plant	<i>Peperomia obtusifolia</i>	U		X		X
Bird's Nest Fern	<i>Asplenium nidus</i>	S	X		X	
Dumb Cane	<i>Dieffenbachia amoena</i>	N		X		X
Spotted Dumb Cane	<i>Dieffenbachia maculata</i>	N		X		X
Mosaic Plant	<i>Fittonia verschaffeltii</i>	S	X			X
Sentry Plant	<i>Howea forsterana</i>	S	X			X
Heartleaf Philodendron	<i>Philodendron scandens oxycardium</i>	N	X		X	
Pittosporum	<i>Pittosporum tobira</i>	S		X	X	
Swedish Ivy	<i>Plectranthus australis</i>	S	X			X
Snake Plant	<i>Sansevieria trifasciata</i>	N		X	X	
Snowflower	<i>Spathiphyllum floribundum</i>	N	X			X
Arrowhead Vine	<i>Syngonium podophyllum</i>	N	X		X	
Maidenhair fern	<i>Adiantum raddianum</i>	S	X		X	
Coralberry	<i>Ardista crenata</i>	U	X		X	
Bamboo Palm	<i>Chamaedorea erumpens</i>	U	X			X
Holly Fern	<i>Crytomium falcatum</i>	S	X		X	
Wax Plant	<i>Hoya carnososa</i>	N		X		X
Lady Palm	<i>Rhapis excelsa</i>	S	X		X	
Peacock Plant	<i>Calathea makoyana</i>	N	X			X

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