W 1128-A

Selecting Indoor Plants for the Home or Office

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Indoor plants are popular because they provide the opportunity to manage, grow and enjoy plants no matter where you live. With increasing urbanization and more time spent indoors, plants in our working and living spaces can provide a great connection to nature. They can be an excellent way for younger generations to get interested in the plant world or for experienced gardeners to try something new. Plants are not only pleasing to the eye, but they can also reduce stress and provide a range of quality of life benefits.

The urge to buy a houseplant is often driven by the plant's appearance, however the plant's life may be short lived if its new home isn't part of the decision-making process. Since there are many different types of indoor plants to fit the space in which you live and work, do not be intimidated about selection because adopting the right plant to share your space can be easy and fun!

Figure 1. *Shopping for houseplants can be an exciting and slightly overwhelming task. Prepare before you shop by taking stock of your home or office conditions and researching which indoor plants might do well there.*

I. Bringing Plants into Your Home and Life: Key Considerations

Houseplants can thrive in low to high light spaces and offer a great range of foliage, flower and even fruiting options. The key to successful indoor plant growing is understanding your expectations, the needs of your new 'roommate', and ensuring that the indoor space matches those needs. So, before you head out to purchase a new plant 'pal', take some time to do a little groundwork by answering the following questions.

1. **What conditions does your home or office space provide?** Indoor plants require certain levels of light, temperature, and humidity just like plants outdoors do. Consider where in your home or office might have enough natural light or where you might need to add supplemental light. The information in this publication will help you understand more about what your home or office can provide as well as listing what different indoor plants need.

2. **What are your expectations for the plant and how much are you willing to invest in its care? Will you have the time to manage a plant that requires frequent attention or are you looking for a bit of a more 'low maintenance relationship'?** Many of the flowering and fruiting indoor plants will require more space and attention while some of the foliage or succulent plants will be able to survive with a little less effort. Starting with snake plants or succulents may be a better path to success than orchids or citrus trees.

3. **Do your expectations for the plant and the plant's needs match?** This question is where it all comes together. Try to select plants that will do well in your space and fit your time and willingness to care for them. Keep in mind that there may be some trial and error.

Don't become discouraged if you lose a plant now and then. Enjoy the plant journey and keep in mind that some houseplants develop character as they age. Providing the right conditions and having a plant for years can reward you with an amazing specimen that is unlike anything available at the nursery.

II. The House: What Our Home or Office Can Really Provide

A. Light

Light is often the most important part of selecting an ideal location for your indoor plants. First, evaluate the amount of light available, as well as the temperature differences that might be created by sunlight. Light can vary due to window placement, window size, and aspect of the windows in the room (North, South, East, West). Plus, other objects such as blinds, porches, and outdoor plants or buildings can alter indoor light.

Figure 2. *The direction of the window, size of the window and presence of objects that may block light all impact light available for indoor plants. This philodendron reaches toward an east facing window that is light limited due to the shade of the porch.*

- Eastern facing rooms are ideal for many indoor plants because they have morning sun and tend to be cooler.
- Western facing rooms may be suitable as well but will receive afternoon sun and be slightly warmer.
- South facing spaces typically stay the warmest but also vary considerably in light throughout the year.
- North facing locations tend to have the lowest light and temperature through the year.

These general characteristics can be useful, but it is more precise to have a quantitative way to describe light levels. The simplest way to measure light indoors is by using the footcandle (f.c.) measurement.

Figure 3. *A simple, handheld light meter can be used to measure footcandles of light and determine suitability of a location for indoor plant growing. This reading of 21 footcandles taken in the winter in an east facing room is actually quite low and suggests the room many require some supplemental lighting.*

This light measure actually relates to the human eye and not light used in photosynthesis (photosynthetically active radiation or PAR). However, footcandle meters or phone apps are relatively low cost and common in photography and indoor lighting, so they are a good tool to help you assess indoor light conditions. For additional information on assessing light for indoor plants, check out this brief video. https://youtu.be/T7L_FMJlHm0.

To help match plants with conditions, it is useful to divide indoor plants into general categories based on their light needs. Four levels of light will be used to classify the indoor plants discussed in this publication. Keep in mind that what locations fit these ranges locations will vary throughout the year. Sunlight will reach further into a room in the winter when the sun is lower in the sky. So, make measurements across the room and the seasons to ensure that you understand the possible changes in the environment.

Table 1. Classification of indoor growing environments based on light ranges (adapted from Pennisi, 2020)

Light Requirement Level	Minimum Range of Footcandles	Optimum Range of Footcandles
Low indoor light	25 to 75	75 to 200
Medium indoor light	75 to 150	200 to 500
High indoor light	150 to 1000	500 to 1000
Very high indoor (similar to part sun outdoors)	1000	1000+ to 4 hours of direct sunlight

B. Temperature

Most indoor plants are native to tropical or subtropical locations, so they are actually often well suited to the indoor temperature ranges of homes and offices. Broadly, these plants prefer a temperature range of 60° to 85°F. More specifically, most indoor plants would prefer a daytime temperature of 70° to 80°F with a 65° to 70°F nighttime temperature. There are some indoor plants that prefer cooler temperatures, such as ferns, cast iron plants, and cyclamen. Alternately, some tropical plants may actually grow best at temperatures higher than comfortable for living areas.

Use caution with energy saving measures in the home or office that could result in lower weekend or nighttime temperatures in the winter. Many indoor plants will experience chill damage, such as yellowing or defoliation, if exposed to temperatures below 50° F.

C. Humidity

Relative humidity (RH) is the amount of moisture in the air relative to how much that air could contain at current temperature and pressure. Since most indoor plants are tropical in origin, they perform well in areas with over 50% relative humidity. It is not common to have indoor rooms with higher than 50% RH, and many rooms will have medium (40-50%) or even low (less than 20%) relative humidity.

Be aware of the humidity conditions in the growing area. Close spacing of several houseplants, along with an addition of a humidifier or pebble trays can create small microclimates with higher humidity. Misting plants is unlikely to be able to be done frequently enough to make a substantial difference and can also be damaging to the appearance of some plant leaves, such as African Violet. Plants will lose water to the air through transpiration more rapidly under lower humidity conditions, so watering frequency may need to be adjusted based on humidity. Also, be aware that humidity is typically higher in the production greenhouse, so transitioning plants to lower indoor humidity is an important element of bringing them into your home or office (see UT Extension publication 1128-B for more information). Humidity may be lower in the winter when heating is frequent, so managing moisture can be important as seasons change.

D. Selecting the Best Location for Houseplants

With the light, temperature, and humidity conditions of indoor spaces presented above, you can now select locations that are well suited to indoor plants and choose plants that are ideal for these spaces. If a plant requires light in higher levels than are present in the room, supplemental light can be provided by florescent or light emitting diode fixtures. Small indoor supplemental lighting options are becoming increasingly cost effective and can even be relatively aesthetically pleasing.

Figure 4. *Supplemental lighting can take many forms. A small but visible light emitting diode light fixture as well as a larger but more hidden florescent light has been installed in this indoor space to provide additional light for these houseplants.*

Even if these supplemental lights are providing a relatively low level of light, running them for 12-16 hours per day to extend the natural day length can increase the light provided to the plant.

Monitor the response of plants to light conditions often by carefully observing the amount of new growth, leaf color, size, and distance between leaves on the stem (called internodes). When light levels are less than ideal for indoor plants, photosynthesis will be limited. This lack of production of sugars will limit plant growth, especially if combined with higher than optimum night temperatures that will use more sugars for general plant maintenance and leave less available for plant growth. Lack of growth or stretching (longer distances between leaves on the stem), as well as smaller or lighter colored new leaves and the death of older leaves are all indications that light levels may be too low. It will be important to balance the light and temperature needs of indoor plants for optimum growth and performance.

III. The Plant: Matching Plant Needs with Location

Use Tables 2 and 3, along with plant tag information to select plants that fit the location. Selection of plants for your home or office should focus on plants that are well suited to the light, temperature and humidity conditions in the space as well as health and quality of the plant. The tables below provide an overview of some of the most commonly grown houseplants. Compare the conditions of your location with the needs of the plants listed below and on the plant tags. Also keep in mind that this is not a time for bargains. Look for healthy roots that are generally white, check closely for any pests, and avoid plants that have yellow or brown leaf spotting or dark roots. With careful selection, siting and care, you are well on your way to success with indoor plants. We hope you enjoy the process of living the plant life!

Table 2. Indoor Foliage Plants (adapted from Pennisi, 2020)

Green shading represents selections suggested for those beginning with indoor plants due to their ability to grow under low to medium light conditions.

Yellow shading is used to represent selections that need higher levels of light or other environmental requirements

Red are considered the most challenging. They may be better options once you have some experience with indoor plants.

Scientific Name	Common Name(s)	General plant or growing notes	Light Needs (footcandles)	Other environmental needs
Adiantum spp.	Maindenhair fern	Native to our area, hardy in zones 3-8	75-over 200	Challenging to keep alive and productive indoors due to their preference for cool, humid growing conditions.
Aglaonema spp.	Chinese evergreen	Can fl wer and produce berries. Arum family	25-200 Green/white cultivars can handle lower light than pink.	Allow the surface of soil to dry before watering. Average temps and humidity.
Aloe spp.	Aloe vera		75- over 200	Allow the majority of soil to dry before watering. Warm temps. Tolerant of low humidity. Use succulent mix for rapid drainage.
Araucaria heterophylla	Norfolk Island Pine	Can be quite tall outdoors, but rarely grows above 6 ft indoors.	75- over 200	Keep soil moist especially in growing periods. Can manage a wide temperature range but in high temps prefers more humidity.
Aspidistra elatior	Cast iron plant	Hardy to zone 6 and used as shade garden plant. Used widely in Victorian era.	25-200 Variegated cultivars need more light.	Allow the surface of soil to dry before watering. Average temps- not sensitive. Can survive in low light but will grow faster under medium light. Direct sunlight can scorch.
Begonia spp.	*Rex begonia* *Angel wing begonia*	Large genus with many indoor options that are often grown for foliage (most are tuberous) and fl wering (many fibrous).	75- over 200	Allow the surface of soil to dry before watering. Average to cool temps with higher humidity if possible.

Scientific Name	Common Name(s)	General plant or growing notes	Light Needs (footcandles)	Other environmental needs
Brassaia spp.	Schefflera or umbrella plant	Plant size can be kept smaller with smaller rooting area.	75- over 200	Allow the surface of soil to dry before watering, can be kept dryer during winter rest period. Average temps, keep above 55°F.
Cacti	Several genera including: Cereus, Opuntia, Schlumbergera	Succulents with spines that often produce fl wers. General categories of desert cacti with strong spines and jungle cacti with more flattened or spherical stem.	75- over 200	These two types differ in terms of moisture and light needs. The most common types are described individually.
Calathea spp.	Rattlesnake plant, prayer plant	Large genus with many beautiful plant options.	75- over 200	Can be a bit picky about site in some cases. Require average temps and prefer high humidity. Closely related to Marantha spp.
Caryota spp.	Fishtail palm	Leaves are bipinnate on a slow growing plant.	75- over 200	Average temperature and humidity with plentiful water but never standing water.
Chamaedorea spp.	Parlor and bamboo palm	Versatile palms for a range of settings.	25-200	Water plentifully when actively growing. Average temps and humidity but leaves can dry on tips in low humidity conditions.
Chlorophytum comosum	Spider plant		75- over 200	Keep soil relatively moist when actively growing. Average temperatures but should not be below 45°F.
Cissus spp.	Grape leaf ivy	Foliage plants that are climbing. Tipping growing points will increase side shoots.	75- over 200	Allow the surface of soil to dry before watering. Average temps. Overwatering and low temps can cause leaf drop.
Codiaeum variegatum	Croton	Small shrubs that are typically less than 3 feet.	4 hours of direct light for good color	Keep soil moist in the growing period but water sparingly in the rest period. Average temps that should be above 55°F.
Cordyline terminalis	Ti plant or good luck plant	Single stemmed upright shrub.	Over 200	Average temperatures, soil should dry out on top before watering.
Crassula argentea	Jade plant	Several other species with succulent leaves. Will fl wer under good light.	75- over 200	Allow the media to mostly dry before watering. Average temps that should not be below 55°F. Leaf loss will increase under low light.
Davallia fejeensis	Deersfoot and Rabbit's foot fern	Ferns with fuzzy rhizomes that can be good in baskets or terrariums.	75- over 200	Keep soil moist and best to maintain high humidity (above 50%). Can survive where other ferns cannot. Average temps.
Diffenbachia spp.	Dumb cane	Can become small shrubs with multiple stems. Arum family	75-200	Prefer warmer (more than 60F) and more humid growing areas. Allow the surface of soil to dry before watering. Average temps and keep above 60°F. Sap can be dangerous so use caution when handling.
Dracaena spp.	Corn plant- Agave family	Some are multi-stemmed while others are single stemmed. Narrow or wide leaves that drop off s the plant grows to expose stem.	25- over 200	Allow the surface of soil to dry before watering. Average temperature is ideal but can survive down to 50°F.

Scientific Name	Common Name(s)	General plant or growing notes	Light Needs (footcandles)	Other environmental needs
Draceana spp.	Snake plant, Sansevieria- recently name change	Very resilient indoor plant that does not mind cramped containers.	25- over 200	Allow the surface to the majority of soil to dry before watering and grow in well drained substrate. Average temps.
Echeveria spp.	Hens and chicks	Many species of these succulents can be grown but light is often a limiting factor indoors.	4 hours of direct light	Average temperatures during growing period with cooler temps during rest period (55-60F). Water sparingly during growth and especially during rest.
Epipremnum aureum	Pothos	Climbing vine closely related to philodendrons. Can be cut back to reduce vining and induce side shoots.	75- over 200	Allow the surface of soil to dry before watering. Average temps. Loses color contrast under low light.
Ficus benjamina	Weeping fig	Very common small tree with weeping form and small leaves that can be solid or variegated.	75 to 4 hours direct light	Allow the surface of soil to dry before watering. Average temps.
Ficus elastica	Rubber plant	Large shiny leathery leaves – common indoor tree.	75 to 4 hours direct light	Allow the surface of soil to dry before watering. Average to warm temps. Keep leaves clean to increase light interception.
Ficus lyrata	Fiddle leaf fig	Large leaves with a slight fiddle shape on a plant that can become a single or multi-stemmed small tree.	75 to 4 hours direct light	Allow the surface of soil to dry before watering. Average temps and maintain nutrition. Can be finicky about changes in site and inconsistent watering. Prefers eastern-facing windows.
Fittonia verschaffeltii	Mosaic or nerve plant	Small creeping tropical plant with fine leaves that have netted veins.	75- over 200	Keep the soil moist. Average temps. Best in terrariums where humidity can be maintained.
Hedera spp.	English and Algerian ivy	Ivy can be kept as a houseplant as well as grown outdoors.	75-over 200	Moderate water during the growing season with consistent temps. Cooler (50F) temps during winter rest are best.
Hoya spp.	Wax plant and sweetheart hoya	Climbing or trailing vines with thick leaves. Have star shaped fl wers as well.	Over 200	Allow the surface of soil to dry before watering. Average temps.
Maranta spp.	Prayer plant	Low growing plant with a spreading habit.	75-over 200	Prefers consistent average temperatures. Keep substrate moist during the growing season and dryer during rest.
Monstera deliciosa	Split leaf philodendron, Swiss cheese plant	Climbing vine in the wild that can be trained indoors. Leaves split as the plant gets older and can be 12-18".	25 to over 200	Can be large impressive indoor plants that can have fruit. Allow the surface of soil to dry before watering. Average temps.
Nephrolepis exaltata	Boston fern	Common tender outdoor fern also used indoors.	75- over 200	Allow the surface of soil to dry before watering but do not let roots dry. Prefers media with high organic matter content. Average temps and average to high humidity. Provide fertilization during the growing season.
Peperomia spp.	Rubber plant	Several species can be found with a range of shapes, sizes, and colors in foliage.	75- over 200	Allow the surface of soil to dry before watering and do not overwater. Average temps.

Scientific Name	Common Name(s)	General plant or growing notes	Light Needs (footcandles)	Other environmental needs
Philodendron bipennifolium	Panda plant	Nonclimbing plant with large leaves (may need support) and aerial roots.	25-200	Allow the surface of soil to dry before watering. Average temps above 55°F.
Philodendron scandens	Heart-leaf philodendron	One of most common houseplants that is part of a large family.	25- over 200	Allow the surface of soil to dry before watering. Average temps above 55°F.
Pilea cadierei	Aluminum plant	Silver and green leaves on a typically short and bushy plant. Rarely fl wers.	Over 200	Cool to average temps and prefers higher humidity (over 50%).
Plectranthus australis	Swedish ivy		75- over 200	Allow the surface of soil to dry before watering. Average temps of 60-70°F are best.
Syngonium podophyllum	Arrowhead plant, Nephthytis	This rapidly growing plant begins upright but becomes more trailing as it matures.	25-over 200	Prefers average temperatures and average to higher humidity. Available in a range of leaf colors.
Zebrina pendula	Wandering plant	Common vining plant with striped leaves.	75- over 200	Allow the surface of soil to dry before watering. Average temps.

Table 3. Indoor Flowering Plants

Green shading represents selections suggested for those beginning with indoor plants due to their ability to grow under low to medium light conditions.

Yellow shading is used to represent selections that need higher levels of light or other environmental requirements

Red are considered the most challenging.

Scientific Name	Common Name(s)	Light Needs (footcandles)	Growing Notes
Anthurium spp.	Flamingo fl wer	Arum family, so spike and spadix blooms	75- over 200
Bromeliads (Bromeliaceae family)	Many genuses: Billbergia, Aechmea, Guzmania, Nidularium, Tillandsia, Vriesea	Many are without stems and have strap-like leaves arranged in a rosette with flower spikes.	Light needs vary and thinner leaves often indicate lower light needs than leathery leaves.
Cyclamen persicum	Florist cyclamen	To enable flowering in a second year, tubers must be given a dry rest period.	Over 200
Cymbidium hybrids	Orchid	Epiphytic orchid that has many miniature forms for growing indoors. Can produce many bloom stems in a season.	Over 200
Euphorbia milii splendens	Crown of thorns	Small flowers on spiked stems. Flower most often in spring and summer but can be more with good light.	4 hours of direct light
Euphorbia pulcherrima	Poinsettia	Most modern cultivars are compact and can be kept from one year to the next.	Over 200
Hippeastrum hybrids	Amaryllis	Often sold as dry bulb in winter rest period. Large leaves and fl wering stems with multiple blooms that last 2-3 weeks.	Over 200
Kalanchoe spp.	Kalanchoe	Succulent fl wering plant that tolerates dry air and low moisture.	Over 200 to 4 hours of direct light
Phalaenopsis spp.	Moth orchid	Most common orchid purchased by consumers and well suited to indoor conditions.	75-200

Scientific Name	Common Name(s)	Light Needs (footcandles)	Growing Notes
Saintpaulia hybrids	African Violet	Common fl wering indoor plant.	75- over 200
Schlumbergera spp.	Holiday cactus- 3 species, many hybrids		75-over 200
Sinningia speciosa	Gloxinia	Same family as African violet.	75- over 200 Can also be grown under artificial light
Spathiphyllum spp.	Peace lily	One of most common indoor fl wering plants. Stemless with long, dark leaves and white blooms.	75- over 200

Resources Cited and Additional Reading

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