

Timely Lighting Care™

Growing Guide

***Grow plants
successfully***

Violets

Green plants

Orchids

Cactus

Herbs

Seedlings



Preface

For over 30 years I have been an active gardener, both indoors and out. I'm always happiest when I have my hands in the dirt either planting seeds, putting out annuals, or repotting a houseplant.

Through years of trial and error, I've developed an understanding of what it takes to successfully grow a variety of indoor plants. While the rules are basic, actually growing a plant can be difficult. Friends have frequently asked, "How do you grow so many beautiful plants when mine die?" The difference is that I provide my plants with all their needs. They get the proper amount of light, water and fertilizer. I use a three-tiered light stand that has fluorescent lamps and special evaporative trays to surround the plants with moisture. While the method is very successful, it's certainly overkill for most people.

However, I figured the theory should certainly work on a smaller scale. Why not create a small tabletop plant light that provides all of the necessities a plant needs to thrive? The result is *Timely Lighting Care: The Intelligent Plant Light™*. The following booklet describes both the light itself and tips for successfully growing a wide variety of plants.

My special thanks to those who have worked with me to make Timely Lighting Care™ a reality: Jim Oram, Don Oddo, Jeff Schulman, Eric Law, Stefanie Cohn, Patrick Hung, Ricky Wong, Tom Heidke, my wife, Barbara, and my friends from the garden club, The Gardeners of the North Shore.

Alan Schulman

Quick Reference

Common flowering houseplants

Name	Light	Water	Fertilizer
<i>Achimenes</i> Hot water plant	Medium	Keep moist, let rest after blooming	Twice a month
<i>Astrophytum</i> Star Cactus	Medium	Sparingly March to Oct., less in winter	Once a month May to August
<i>Astrophytum asterias</i> Sea Urchin Cactus	Medium	Sparingly March to Oct., less in winter	Once a month May to August
<i>Astrophytum</i> Bishop's Cap Cactus	Medium	Sparingly March to Oct., less in winter	Once a month May to August
<i>Begonia elatior</i> Tuberous begonia	Medium	Keep moist, but not soggy	Every 2 weeks
<i>Calceolaria</i> Pocketbook plant	Bright	Keep moist, but not wet	Once a week
<i>Capsicum annuum</i> Ornamental pepper	Bright	Keep moist, but not wet	Once a week
<i>Echinopsis</i> Hedgehog Cactus	Medium	Sparingly March to Oct., less in winter	Once a month May to August
<i>Euphorbia Milii</i> Crown of thorns	Bright	Moderately and very little in winter	Every 2 weeks
<i>Exacum affine</i> Mexican violet	Bright	Keep moist, needs humidity	Every 2 weeks
<i>Impatiens hawkeri</i> New Guinea Impatiens	Bright	Keep moist, needs humidity	Once a week in summer
<i>Kalanchoe</i> Flaming Katie	Medium	Moderately and very little in winter	Once a month spring & summer
<i>Mimosa pudica</i> Sensitive plant	Bright	Soak then let dry, needs humidity	Twice a month
<i>Nertera granadensis</i> Bead plant	Bright	Soak then let dry, needs humidity	Once a month
<i>Rhipsalidopsis</i> Easter cactus	Medium	Keep moist, but not wet	Twice a month
<i>Rosa chinensis</i> China rose	Medium	Keep moist, needs humidity	Every 2 weeks
<i>Sinningia hybridus</i> Gloxinia	Bright	Keep moist while blooming, needs humidity, dry out after booming	Every 2 weeks
<i>Streptocarpus</i> Cape primrose	Bright	2-3 times a week	Every 2 weeks

Quick Reference

Common foliage houseplants

Name	Light	Water	Fertilizer
<i>Adiantum</i> Maidenhair fern	Low	Keep moist, needs humidity	Every 2 weeks
<i>Begonia Rex</i> King Begonia	Low	Keep moist, drier in winter	Every 2 weeks, spring & summer
<i>Cryptanthus</i> Earth-star	Bright	Soak then let dry, needs humidity	Every 3-4 weeks in summer
<i>Davallia canariensis</i> Rabbit's foot fern	Low	Keep moist, needs humidity	Every 2 weeks
<i>Epipremnum aureum</i> Devil's ivy	Bright	Soak then let dry, needs humidity	Every 2-3 weeks spring & summer
<i>Fittonia</i> Snakeskin plant	Medium	Keep moist, needs humidity	Once a month in summer
<i>Gynura x. sarmentosa</i> Purple passion	Bright	1-2 times per week	Once a month
<i>Hypoestes</i> Polka-dot plant	Bright	2-3 times per week,	Half strength every 2 weeks
<i>Maranta leuconeura</i> Prayer plant	Bright	Keep moist, needs humidity	Every 2 weeks spring & summer
<i>Pellaea rotundifolia</i> Button fern	Medium	Soak then let dry, needs humidity	Once a week in summer
<i>Peperomia caperata</i> Emerald ripple plant	Medium	Keep moist, needs humidity	Once a month in summer
<i>Peperomia obtusifolia</i> Baby rubber plant	Bright	Soak then let dry, needs humidity	Once a month in spring & summer
<i>Pilea Cadierei</i> Aluminum plant	Medium	Soak then let dry, needs humidity	Once a week in spring & summer
<i>Saxifraga stolonifera</i> Strawberry geranium	Bright	2-3 times per week	Every 2 weeks in summer
<i>Selaginella Martensii</i> Resurrection plant	Low	Keep moist	Every 3 weeks Spring & summer
<i>Senecio Rowleyanus</i> String of pearls	Bright	Soak then let dry between watering	Once a month spring & summer
<i>Soleirolia Soleirolii</i> Baby tears	Medium	Keep moist, needs humidity	Once a month spring & summer
<i>Tolmiea Menziesii</i> Piggyback plant	Medium	2-3 times a week	Every 2 weeks spring & summer

Features

Seasonal timer

The TLC plant light has an automatic, computerized timer built into the controller. It will turn the light on and off everyday simulating the changing length of days with the passing seasons. Just plug the power adapter into an electric wall socket and the light will turn itself on and off each day, year after year. The plant thinks it's outdoors and thrives. To adjust the lighting cycle, refer to the instruction section of this booklet.



Telescoping stem

The telescoping stem on the TLC plant light is adjustable from 7" to 14" high. This allows you to grow very small plants or larger plants up to 12" tall. It also allows you to position the lamp closer or farther away from the plant to control the light intensity, so you can grow plants that need high, medium or low light. When the lamp is 2" away from the plant, it is receiving the equivalent of bright light. At 4" it is receiving medium lighting and at 6" the light is considered low.



Full spectrum 9-watt fluorescent lamp

The TLC plant light uses a full spectrum 9-watt fluorescent lamp. This custom-designed lamp emits a mixture of light waves that simulate the light of the sun. Plants respond to this solar light and grow rich green leaves, healthy stems and flowers. When it's time to replace the bulb, use the Timely Lighting Care 9-Watt Replacement Lamp.



Soil moisture sensor

There is a soil moisture sensor included with the TLC plant light. When it is inserted in the soil, it will indicate when it is time to water the plant. A light will flash next to the words "water me" on the controller. The depth of the sensor rods can determine how often you should water your plant. When fully pressed into the soil, the sensor will indicate when the soil is completely dry. When inserted only half way, the sensor is measuring only the top inch of soil. This top layer dries out first. So, if your plant requires more consistent moisture, insert the sensor half way into the soil.



Features



Water-retaining base

The base of the TLC plant light catches the excess water that drains through the plant after watering. This creates a humid microclimate that is beneficial to the plant as the water evaporates. The pebbled base is designed to keep the plant above the water so that the roots will not rot. The base will accommodate a pot up to 5½" in diameter.

The combination of these features will enable you to grow potted plants in any location. To better understand what plants need and how to grow them, please read the following tips for successful indoor gardening.

Growing Guide

be buried, some need light to sprout, some actually require freezing or total darkness to break their dormancy.

Peat pellets are another way to start seeds. They expand when you add water making their own containers. Just sow 2 or 3 seeds in each pellet, then them cover lightly with peat moss and plastic wrap. When the seeds have sprouted, remove the plastic and let them grow until they are ready to plant outdoors.

Water

Because seed and seedlings are very small and delicate, watering should be done from below. To accomplish this, fill the plant light base with warm water to about ¼ inch above the pebble-like bumps on bottom of the tray. By doing this you are allowing the water to wick up into the pot of soil. It's like a sponge. If after 15 minutes the water is still higher than the bottom of the pot, just empty some out. If you leave too much water just sitting in the tray the roots will rot. Continue this watering method until the seedlings are large enough to withstand watering from the top without washing them away.

Light

Once the seeds are planted, place them under your TLC lamp and lower the stem to its lowest position. This will provide the brightest light for your seedlings. Set the season to "spring" by pressing the button on the control panel until the green light is on. Once the seedlings begin to grow you can raise the stem of the lamp. Try to keep the light 2" to 3" above the top of the plant leaves. By the time the plants are as tall as the lamp, it is probably time to plant them outdoors. Follow the instructions below when you are ready to put your seedlings outdoors.

Fertilizer

Initially your seedlings do not need to be fed, because the first sets of leaves store the nutrients the plants need. However, the second sets of leaves do not have the nutrients. By using a balanced fertilizer (10-10-10) you could help your plants grow up to be happy and healthy adults. Use half-strength fertilizer with each watering after these second leaves have formed.

Adapting your plants to the outdoors

Once the weather starts to get nice and you feel that your plants are mature enough to live outside, you need to give them some time to "harden-off". By hardening-off we mean give your plants

bumps in the base. Larger flowering plants can be watered from the top of the pot, but avoid getting water on the blooms. Water remaining on the flowers tends to leave spots.

Light

Most of the flowering plants that you purchase, like mums, begonias, or primrose, have nearly reached their peak. You won't be growing them; you'll be enjoying them. The TLC plant light will highlight the blooms and extend the growing season a bit, but the flowers will fade within a few weeks.

Fertilizer and maintenance

Plants that are in full bloom, and especially the miniature varieties, will only grow for one season. When the blooms fade, the plant should be replaced, planted outdoors, or re-potted. The miniature varieties can be potted up into 3" or 4" pots and placed back under the plant light, but they will not bloom again for some time. Since the growing season is short, there is no need to fertilize these plants unless you re-pot them.

How to grow your favorite flower or vegetable from seed

Planting the seeds

The base of your TLC lamp will accommodate a pot up to 5½" or five or six 1½" to 2" pots. These pots should be absolutely clean to prevent a seedling disease called damping off. When seeds first start sprouting, damping off can cause the stems to suddenly rot, and the seedlings will die. Using a clean pot and sterile soil mix will prevent damping off.

Use a fine soilless mix especially made for starting seeds. Even though these mixes are ready to use from the package, it is suggested that you take an added step to insure a disease free start. This step calls for cooking the soil. That's right, cook the soil. First, wet the mix with just enough water to make it damp. Then cook the mix in the microwave for three minutes. The heat kills any unwanted plant diseases. After the soil has cooled, put it into the clean pots.

Now you are ready to plant the seeds. It is very important to follow the instructions on the back of the seed packages. Each variety of plant has its own requirement for sprouting. Some need to

Quick set-up instructions

1. Insert the plant light stem and controller assembly into the slot in the base
2. Plug the power adapter into a 115vac outlet
3. Select the season you want by pressing the button on the controller until your selection lights up
4. Adjust the height of the stem to accommodate your plant
5. Insert the soil moisture sensor into the soil of the plant

Operating instructions

Setting the seasonal timer

The computer chip in the TLC plant light has been programmed to simulate the changing daylight cycle of the seasons. Once set, the days will get longer in the spring and shorter in the fall, etc. Because day length varies at different latitudes, we chose 35° N latitude for the optimum day length for blooming and non-blooming plants. Cities that are at 35° N latitude include Charlotte, NC; Memphis, TN; and Las Vegas, NV.

The first time you plug the TLC plant light into an outlet, the lamp will come on and the cycle will begin as if it was December 21st at sunrise (7:23 AM). The winter indicator light will be lit. You may leave it at this setting or select another season. The automatic timer will continuously change the day length year round. It even adjusts for leap year every four years.

Should you decide to start the cycle in another season, just push the button on the panel. Each time the button is pressed the seasonal timer and indicator light will change depending on the season you pick. When the lamp turns on, the timer will be set to sunrise for the first day of that season, then it will continue to change the length of the days as the seasons progress.





What happens to the lamp when it is unplugged or the power fails? The TLC lamp loses track of the day and the time. When you reconnect the lamp, you can reset it to the first day of any season just by pushing the button and selecting the season you want. If you'd like to be closer to the actual day, let the timer continue until the actual first day of the next season, then just push the button to match the season.

For example, should your power go off on May 11th, reset the season indicator to spring. The day length will be similar to the shut off date. On June 21st press the button once and the season will advance to summer. Even though the seasonal timer is not perfectly aligned to the actual date, these changes should not effect the growth of your plant.

Some plants may prefer the same amount of light exposure every day. The timer also can be set so that your plant receives 13 hours of light each day instead of varying amounts of light. Hold in the button on the panel for about five seconds. The season light will turn off. When you let go, the summer light should start to blink indicating that every day your plant will be receiving 13 hours of light. When the light is unplugged and plugged in again, it will reset itself to the seasonal cycles.

Adjusting the intensity of the light

The stem on the TLC plant light can be extended from 7" to 14" high. The intensity of the light increases dramatically the closer it is placed to the plant. When the lamp is 2" away from the plant, it is receiving the equivalent of bright light. At 4" it is receiving medium light, and at 6" the light is considered low. Many potted plants have light requirement labels. Use these guidelines for setting the height of the lamp. For additional information, refer to the details on specific plants that are included later in this manual.

Installing the moisture sensor

The soil moisture sensor will measure the amount of water in the soil of your plant. The depth of the sensor rods can determine how often you should water your plant. When fully pressed into the soil, the sensor will react when the soil is completely dry. Use this method for cactus, succulents and other plants that need to dry out between watering. When the sensor is inserted only half way into the soil, it is only measuring the top inch of soil. This top layer dries out first. So, if your plant requires a moist soil, only in-

The light requirement will vary depending on which variety of foliage plant you choose to grow. The regular seasonal timing cycle is perfect for these plants. If you choose a plant that prefers high intensity light, position the lamp about 3" from the top of the plant. Low light plants can be placed 6" away from the lamp. Most foliage plants are very tolerant when light intensity is concerned. So if your plant grows taller and gets closer to the lamp, don't worry it will probably be fine.

Fertilizer

Foliage plants do not require much fertilizer. Feed your foliage plants once a month with a feeding of ½ strength 10-10-10, or similar, fertilizer. During the winter months you can skip the feeding for 2 to 3 months.

Plant maintenance

As foliage plants grow taller they generally shed their lower leaves. Initially these lower leaves will turn yellow or brown and finally drop off. This is normal. To keep the plant looking fresh and attractive simply cut off faded leaves. Eventually many foliage plants will outgrow the pot and the height of the lamp. This is the time to find another home for your plant, place it near a window or give it to a friend.

How to grow flowering plants with your TLC lamp

Flowering plants come in a variety of sizes

There are a wide variety of flowering plants and miniature versions available in stores. These plants are available in full bloom and are bright and exciting to own. However, the blooming season is short. You should choose plants with lots of buds, rather than lots of flowers to extend the blooming season. Some of these flowering plants come in pots as small as 1½" across. The base of your TLC lamp was designed to hold up to five of these miniature beauties.

Water

An easy way to water the miniature plants is to fill the base of the lamp with water so that the plants can absorb the water from the holes in the bottom of their pots. After five minutes the water level in the base should be at or below the top of the pebble-like

Growing Guide



Believe it or not herbs like to lay in the sun and get tan more than we do. To give your herbs the light they need to grow and be healthy; you should put the lamp approximately 2" above the top of the plant.

Plant maintenance

When planting your herbs make sure that your pot has holes in the bottom for drainage. Herbs grow best in well-drained soil made from a mixture of one part sharp sand to four parts potting mix. Select a small pot for several reasons. Herbs grow best when their roots are confined and by limiting the root space, you will also limit the size of the plant. Plants grown in larger pots will outgrow the limits of the plant light.

How to grow foliage plants with your TLC lamp

General suggestions for plant selection

There are numerous varieties of foliage (non-blooming) plants available today. Some have green leaves and others are variegated (these have white, yellow or other colors mixed on each leaf). When selecting plants you want to grow, keep a few things in mind. The small plant you purchase today may soon outgrow the pot and the height capabilities of the plant light. Select varieties that normally remain short and compact. If you are going to have more than one plant in the pot, try to select varieties that require the same amount of light intensity. The instructional tags that come with many houseplants will tell you if they are high, medium or low light plants.

Water

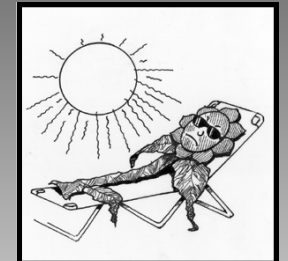
Most foliage plants like to have moist soil. For these plants, push the moisture sensor into the soil only half the length of the sensor rods. In this position the "water me" light will go on when the soil is still moist on the bottom of the pot. This will prevent the plant from drying out completely. As with any plant, be sure to use a pot that has drainage holes in the bottom. Any excess water will drain through the pot and remain in the base which will benefit the plant as it evaporates. Be sure the water level is below the pebble-like bumps in the base to prevent the roots from rotting.

Light

Growing Guide

sert the sensor half way. When the plant needs to be watered, an indicator light will flash next to "water me" on the controller. After the plant has been watered, the indicator light will turn off until the plant needs watering again.

Your TLC plant light is now set and ready to help you grow beautiful plants! For more specific plant information read on...





Understanding a plant

Plants are like people or any living thing. If they get what they need, they will thrive. So what exactly do plants need? They need light and dark periods, soil, water and food. While this seems basic, providing these needs for your plants could require considerable attention. The TLC plant light was developed to provide most of their needs with little effort. Now let's take a closer look at these requirements.

Light

All plants originally grew outdoors either in bright light or shade. If a shade-loving plant is placed directly in the bright sun, its leaves will burn just like you do on a sunny beach. On the other hand, if a plant requires bright light and is placed in a dark corner, it will become pale, refuse to bloom, and eventually die.

Plants also need light that simulates the color of the sun. While not visible to the eye, sunlight is a combination of all the colors of the rainbow. Plants need a combination of colors from this full spectrum of light in order to thrive.

In addition, plants need varying periods of light and dark. Just like people, plants sleep. So, if a light is always on, a plant will suffer. By simulating the seasons, the TLC plant light provides just the right amount of light and dark periods.

Water, soil, and pots

Plants need the right amount of water to live. Unfortunately, many of us forget to water our houseplants, or overcompensate by watering too much. If you think you have a "black thumb" and kill your houseplants, it's probably because of over-watering or under-watering.

Most plants absorb water through their roots, and roots actually need to breathe. That's right, roots need some air in the soil. For this reason it is important to use a light peat moss-based soil mix for your potted plants. A proper soil mixture will hold water yet allow excess water to pour from the bottom drainage hole in the pot. The addition of one part sharp sand to four parts potting mix will improve drainage. It is important to note that you should always use a pot with a drainage hole when gardening with the TLC plant light. If the pot does not have a drainage hole, water

* Published June 1996, Dept of Horticulture and Landscape Architecture Washington State University, Pullman, WA



Orchids need the seasonal change of daylight to encourage blooming, and the TLC lamp automatically provides this change. The orchids will flower for several months, then rest until the next year. However, Phalaenopsis will flower twice a year if you cut the stem half way down after the first blooming period.

Fertilizer

Fertilizer helps your orchid grow strong and healthy. A diluted feeding of 1/2 strength liquid fertilizer is recommended. Moth orchids prefer 3-1-1 with each watering, and Lady Slipper orchids like a stronger 30-10-10, but alternate with just plain water every other time you water. One half strength 30-10-10 with each watering is best for Miltonias.

Plant maintenance

Orchids will grow well in either a clay pot or a plastic pot, but no matter what kind of pot you use always make sure there are holes on the bottom so the water can drain out. Orchids grow better when they are in a confined space, so choose a smaller pot rather than a larger one, and don't repot more than once a year. Use special orchid potting mix that contains fir bark, not regular potting soil, or the roots will get soft and mushy.

How to grow herbs with your TLC lamp

What type of herbs can you grow indoors?

Rosemary, chives, marjoram, mint, parsley, thyme, basil, tarragon and sage are all easily grown indoors, and fresh herbs make a great addition to your recipes. Some are annuals, like basil and will have to be replaced in about six months, others, like thyme and rosemary can last for years.

Water

Many herbs have leaves that will dry out if the soil gets too dry. The moisture sensor with your TLC plant light tells you when water is needed. Insert the soil sensor half way into the soil. This will prevent the soil from getting too dry before the "water me" light goes on. When you water, give the plant enough so that there is water left in the base for extra humidity. This should keep the tips of the leaves from drying out.

Light

Growing Guide



Plant maintenance

Plant your cactus in an unglazed pot with a hole in the bottom. If there isn't a hole in the bottom, the roots of the cactus may sit in water and rot. Place a layer of rough stones on the bottom of the pot for good drainage, then add the soil. The easiest formula for making your own soil is to use equal parts of sharp sand and potting soil. To increase the growth of your cactus, bone meal and limestone can also be added. This mixture will provide certain nutrients your cactus needs.

How to grow orchids with your TLC lamp

Which orchids will grow best indoors?

While there are thousands of orchid varieties available, the three that are best suited to grow indoors are Phalaenopsis (moth orchid), Paphiopedilum (lady slipper) and Miltonia (no common name, but they resemble large pansies with flowers that look like faces). Your TLC plant light and average room temperatures will provide these varieties with all of their growing needs.

Water

It is important to have a drainage hole in the bottom of your pot. When you water your plant the extra water will drain out of the bottom and settle in the water-retaining base. While the pebbled base will keep the plant from sitting in water, the excess water will evaporate and create a moist environment for the orchid plant. This is great, because most orchids really like humidity. Water your orchid every 5 to 10 days or when the moisture meter says, "water me".

Light

When these orchids bloom, they send out a long spike or spray of flowers, but the flowers don't need to be under the light. Only the green leaves require lighting. This unique feature will allow you to grow orchids that have large showy, sprays of flowers.

Many orchids require bright light, but not direct sunlight to bloom. The three varieties mentioned above like 1000 to 1500 foot-candles of light. Adjust the TLC plant light so that the light is 3' to 4' above the leaves of the plant. If you notice that your orchid leaves are becoming pale or less green than before, move the light a little closer to the leaves.

Growing Guide



will accumulate in the bottom of the pot. This condition will rot the roots and kill the plant.

Most plants do better in a humid environment, so allow excess water to remain in the base of the lamp after you water. The pebble-like bumps on the bottom of the base keep the pot from sitting directly in water, and help the moisture to evaporate. This moist air creates a beneficial climate around the plant, one that is very helpful when growing African violets, orchids, seedlings, and foliage plants.

Fertilizer

In addition to the proper amount of light and water, plants need to be fed. There are many liquid and powder plant fertilizers available. To avoid over feeding, mix your fertilizer of choice at 1/2 the amount recommended in the fertilizer instructions. As a general rule, you can use this mix with each watering. A steady diet of this half-strength plant food will provide your plant with all it needs to thrive. More specific instructions for feeding special varieties of plants are spelled out later in this book.

Many fertilizers contain various salts that can accumulate in the soil and on the pot. It is a good practice to water your plants over a sink with warm water running through the soil every once in a while. This procedure will flush any excess salts from the soil.

Talk to your plants

While talking to your plants may seem bizarre, there actually is a benefit to talking or even breathing on your plants. It's a symbiotic relationship. We need the oxygen that plants produce, and plants need the carbon dioxide that we breathe out. To increase the growth of plant crops in commercial greenhouses, growers use carbon dioxide generators. You can help your plant grow by simply blowing on it.

Increase productivity and reduce stress

Indoor plants can actually improve your productivity and reduce stress. In a study conducted at Washington State University, researchers determined that plants in a business environment could increase productivity as much as 10% to 15% and reduce stress.* It only seems natural that a healthy plant growing under a bright little light will cheer you up.

Growing Guide



How to grow African violets with your TLC lamp

Water

African violets grow best in uniformly moist soil. When you water, always make sure that your water is warm, not too hot or too cold. If the water is the wrong temperature you may begin to see little light dots on the leaves of your plant. Also, African violets thrive in a humid climate. Make sure that the pot has drainage holes in the bottom so that extra water will drain into the base. When water is retained in the base, it evaporates slowly creating the right humidity for your plant. However, make sure the water level in the base is below the top of the pebble-like bumps, otherwise your plant will sit in water and the roots will rot. Inserting the water sensor half way into the soil will provide the proper watering frequency.

Light

African violets require medium light, about 800 to 1200 foot-candles. By adjusting the stem on the TLC lamp so that the bulb is 3" to 4" above the violet, your plant will receive the proper amount of light.

Fertilizer

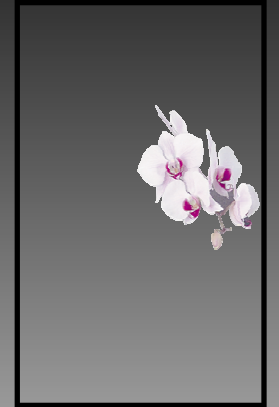
African violets are relatively light feeders. To prevent over-feeding your plant, we suggest using half the amount of fertilizer recommended on the package. Feed your African violet with this weak solution every week rather than a heavier dose at longer intervals. The best type of fertilizer for this plant is a fertilizer made especially for African violets. A 15-30-15 fertilizer would work well.

Plant maintenance

After you've had your African violets for a while the outside leaves tend to get soft or really dry. To keep the plant looking fresh, simply break off those leaves at the base of the stem. As you continue to maintain your plant the main stem is going to get taller. Once your stem is so long that it's unattractive, consider re-potting the plant.

To re-pot an African violet, take it out of the original pot. You can either put it back in the same pot or in one slightly larger. Violets bloom more frequently when their roots are confined, so don't

Growing Guide



use a pot that is too large. Before you re-pot, you should pick off the callused area of the stem. Cleaning the stem is like picking bark off of a tree. Next, loosen and remove some of the soil from the root ball. If the plant stem is too tall for the pot, you can cut off some of the roots. Then re-pot it with the leaves just above the soil.

How to grow cacti with your TLC lamp

Water

The easiest way to kill a cactus is to give it too much water. Dry, is the key word in growing a cactus successfully. When you water your cactus use tepid water, because water that is too hot or too cold may shock the plant and cause some damage. It's also important to empty the base after watering. Water in the base creates humidity, and remember, the key word here is dry! Be sure to insert the water sensor completely into the soil so you are measuring the moisture at a deeper level. The top layer of soil dries out faster, and you want to be sure the deeper soil is dry before you water again. Another tip: a cactus needs less water when it is resting in the winter months.

Light

Since cacti are usually grown in the desert, they need lots of light. Set the stem of the plant light so that the lamp is about 2" to 3" above the plant to meet its lighting requirement. Usually a reduced day length of 12 hours or less helps the cactus to bloom. By changing the seasonal timer to "fall", you'll make the days shorter and nights longer which will stimulate the flowers. However, you shouldn't reset the timer repeatedly, since cacti only bloom once a year.

Fertilizer

All cacti need an extra little push to bloom. Fertilizer is the perfect solution. You should fertilize your cactus once a month June through August to help flower production. A formula like 7-40-6 is good. However, always use half the recommended amount, so you won't damage your plant. If too much fertilizer is used your cactus may become disfigured. While cacti usually don't need fertilizer during their resting period, if you notice that yours look discolored or unhealthy, you may want to try adding some fertilizer to the water.