CACTUS	SUCCULENT	PACHYCAUL	TREE	WINTER	GROWER	SUMMER	GROWER	BOTH
TAXA:								
NOTES :								

CONGRATULATIONS, You are now the proud owner of a miraculous botanical lifeform. From here on out this plant will look to you for its sunlight, water, and whatever else it needs to stay alive. We heartily encourage you to do your homework. Get to know your plant. With just a bit of knowledge & effort, it will reward you many years of growth, flowers, and companionship.

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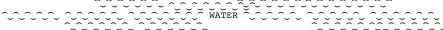
\*\*\*\*I.M.P.O.R.T.A.N.T \*\*\*\* So long as a plant has what it needs to thrive, it will grow anywhere. That said, there's no such thing as an "indoor plant". Even shade-loving plants have airflow preferences, temperature preferences, and other predilections that aren't always easy to replicate on a windowsill. In other words, growing a plant indoors is never without risk, but given the proper conditions, care, and attention, your plant will flourish.

INSIDE: Where you place your plant is critical to its survival. Rule #1 YOUR PLANT WILL DIE IF PLACED TOO FAR FROM A WINDOW. Always keep a cactus 12 inches or less from your brightest window. If you need decoration for an empty corner, try a lamp:). Moreover, we suggest that you rotate your plant periodically to help it grow more evenly.

If a window is not available, use a full spectrum GROW LAMP for supplemental light during the day. This makes a huge difference when growing plants indoors, just make sure that you turn it off at sunset.

OUTSIDE: Choose a spot with lots of bright sunlight during the day, but with  $\operatorname{cool}$  filtered light or "bright shade" in the afternoon when solar irradiance is most intense. Be warned, late afternoon direct-sun can burn a cactus.

- [ [ [TOO MUCH SUN] ] ] When a plant starts turning red or fades to yellow on the side facing afternoon sun, this means that your cactus is sun stressed. In extreme cases, like during a heat wave, sunburn can actually scorch a plant's epidermis, leaving a permanent scar.
- { {  $\{ \mbox{TOO LITTLE SUN} \} } } If your cactus starts elongating, growing thinner at$ the top than at the base, this means that your little sun worshipper is being deprived of sun. We call this "etiolation"
- \*Xeric plant conservatories find the sweet spot between TOO LITTLE and TOO MUCH by growing their plants under 30% shade cloth. 70% solar transmission is the



- I. WHAT MONTHS: Most desert plants are seasonal growers, with a growing season and a dormant season. These plants was desert plants are seasonal growers." They want much less hydration during their dormant season. Google your plant if you are unsure what type of grower they are.
- WHAT TIME: Desert plants drink their water at night (google: crassulacean acid metabolism). This means that the best time to water is at dusk.
- III. HOW: When watering, fully soak the soil until you see water issue through the bottom of the pot. This assures the roots are properly hydrated. Always make sure that the soil is bone dry for a few days between watering.
- APR. 15 OCT. 31: Summer growers wake up when the days get long G and the weather warms up. These are the dates for Southern Cali-
- ] M 0 fornia, but of course, no one can predict the weather. Some growing
- seasons begin much sooner while others might wait until mid May or W 1 M
- Ι later (NYC for example). Best practice is to be observant. Eventu-1 E
- Ν
- ally you'll get a feel for it. G 1
- NOV 1 APR 14: Winter growers are typically plants that hail from S 1 w parts of the world with rainy winters and dry summers. They start
- waking up when they detect the days getting shorter. Again, no one Ε
- Α can predict the weather, but a little observation goes a long way. 1 N S 1 T
- 0 1 E \*When your plant is dormant, lightly moisten the soil once a month. N

FERTILIZER: A well balanced liquid cactus fertilizer does wonders for roots, stem growth, and flowers. Just make sure fertilizer is dosed on a regular schedule, like every two or three weeks. Irregular fertilizing can cause irregular growth. Also, NEVER FEED YOUR PLANT WHEN IT IS DORMANT.

- ${\bf Q}\colon$  What happens if I move my succulent to the coffee table, further than 14" from the bright window?
- A: It will pretend to be happy for a while (cactus are stoic beings), until one day when you return from work only to find a rotting, putrid, decaying plant corpse dripping onto your favorite rug. Don't play cards with inevitability. You will loose.
- Q: What happens if I leave for vacation and don't water my cactus for a month? A: If your plant is thoroughly hydrated and plump before you leave, it should be fine. When in doubt, find a plant sitter.
- Q: What happens if I put my plant in full all-day sun exposure?
- A: Relatively few cactus can handle direct full-sun in the late afternoon, especially when temps rise above 95 degrees Fahrenheit. This combination of extreme heat and late afternoon UV will burn most cactus.
- Q: What if I find little white spots or bugs crawling on my cactus?
- A: Treat with a 3-in-1 mite and mealy spray. If you're squeamish about using chemicals, plant discussion boards are great places to meet horticultural hackers experimenting with natural pest abatement.
- \*for visual recognition google mealy bugs, scale bugs, and spider mites.
- Q: What happens if I water my cactus and it's read.
- A: Emblazon this onto your soul: COLD & WET = DEATH
- \* SOIL- Cactus prefer a WELL DRAINING mineral rich cactus soil.
- $\times$  WATER PH When watering with city water, distilled white vinegar 0 1/2 teaspoon per gallon will keep your plant's roots healthy and strong.
- $^{\rm x}$  AIR FLOW Adequate air circulation is essential to plant health. This is especially true for leafy plants. Every greenhouse worth its salt uses fans to circulate the air.
- $\times$  BUGS I know we just said this but it bares repeating. Spray the epidermis of a bug infested plant with a 3-in-1 mite and mealy spray. If you're squeamish about chemicals, check plant discussion boards for some natural pest abatement strategies. Protocols vary depending on the bug, the plant, and the situation.
- $\times$  STRESS If your cactus starts turning orange, pink, red, or purple around the edges, that means it is stressed out. Stress is not necessarily a bad thing, especially for a cactus, but if it starts turning uniformly yellow (not just on the sun-facing side), it means your cactus is malnourished. When this happens, add fertilizer to your watering regimen for a nitrogen boost.
- ${\tt x}$  TRANSITIONING When moving a cactus from a shady spot to a sunnier one, best to do it slowly over a couple of weeks to avoid scorching the stem.
- x FROST Unless we tell you otherwise, when temps dip below 40 degrees Fahrenheit, move your plants to a location less exposed to cold and frost. Also when it is cold, KEEP THEM DRY!
- × SHRIVELING Shriveling happens for two reasons:
  - I. YOUR CACTUS IS LOSING WATER: If this happens during summer, increase water frequency. In the off season when your cactus is dormant, shriveling is normal. Like a hibernating bear, your plant is living off of its stores and will plump back up when watering resumes in spring. In the meantime you can give it a light sprinkle.
    - II. ROOT MEALY: If your plant keeps shriveling, even after you've increased water, chances are that it has bugs living in the roots. When this happens, discard the old soil and lightly spray the roots with a 3-in-1 mite and mealy spray. Then repot in fresh soil.

how to read a leaf

 $\star For\ xeric$  trees, leafy Euphorbias, Pachypodiums, caudex plants, and other leafy succulents.

- ${ t -}{ t IF}$  YOU SEE NEW LEAVES FORMING, your plant is telling you it is thirsty. It needs WATER to make NEW LEAVES AND STEMS.
- ${ text{-IF}}$  THE LEAVES LOOK PINCHED OR CRISPY ON THE TIPS, then your plant is not getting enough water to push out the green stuff.
- ${ t -}{ t IF}$  YOUR PLANT DROPS LEAVES DURING THE GROWING SEASON, it is telling you that it needs more sun, and that you should move it.
- ${\tt -IF}$  IT DROPS LEAVES AT THE  $\stackrel{-}{\hbox{\footnotesize END}}$  OF THE GROWING SEASON, your plant is telling you to start tapering off water.