



From Beginner to Pro: Mastering Terrarium Layers in Tropical Settings

There is increasing evidence that exposure to plants and green space, and particularly to gardening, is beneficial to mental and physical health.

Matt Plumridge | Eco Treasures



The background of the page is a close-up photograph of a terrarium. It features a variety of plants, including a large, light green leaf with pinkish-red variegation in the upper left corner, and a dense carpet of small, rounded, green leaves with prominent pinkish-red veins throughout the rest of the image. The overall color palette is a mix of vibrant greens and pinks.

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The background of the entire page is a dense, vibrant display of various tropical plants, including Nerve Plants (Fittonia) with their characteristic red and green variegated leaves, and other foliage with white variegation. A large, white, rectangular panel is centered on the page, serving as a backdrop for the text. In the top right corner of this white panel, there are several small, solid blue circles of varying sizes. In the bottom left corner of the white panel, there is a stylized, light orange flower with multiple petals and a dark outline.

01

Chapter 1: Introduction to Terrarium Layers

Understanding the Importance of Terrarium Layers

Terrariums are miniature ecosystems that allow us to bring a piece of nature into our homes. One of the key factors in creating a successful terrarium is understanding the importance of the different layers that make up the habitat. Each layer plays a crucial role in the overall health and well-being of the plants and animals that inhabit the terrarium.

The bottom layer of a terrarium is known as the drainage layer. This layer can be made up of several different materials with pros and cons to each that we will discuss shortly. The drainage layer is crucial for a thriving terrarium as it allows the water to drain out of the soil. The water in your closed terrarium albeit no clouds and rain is a fully functioning water cycle. The drainage layer is also helps prevent accidental overwatering by allowing the excess to drain out of the soil and lessen the chance of root rot.



The next layer in a terrarium is the substrate layer. This layer provides nutrients for the plants and helps to anchor their roots. The type of soil you choose will depend on the specific needs of the plants you are using in your terrarium. Tropical plants, for example, require a soil mix that is rich in organic matter and retains moisture well. It is important to choose a soil mix that is well-draining to prevent water from becoming stagnant and causing root rot.

Above the soil layer is the decorative layer, which can include materials such as pebbles, sand, moss, or bark. This layer not only adds visual interest to the terrarium but also serves a practical purpose. Decorative layers can help to retain moisture in the soil, provide a habitat for beneficial microorganisms, and create a more naturalistic environment for the plants and animals in the terrarium.

Finally, the top layer of a terrarium is the planting layer. This is where you will add the plants and any additional decorations, such as figurines or rocks. When selecting plants for your terrarium, it is important to consider their light and moisture requirements, as well as their growth habits. By carefully choosing the plants for your terrarium and arranging them in a way that mimics their natural habitat, you can create a beautiful and healthy miniature ecosystem that will thrive for years to come. Understanding the importance of each layer in the terrarium is essential for creating a successful and sustainable habitat for your plants.



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Chapter 2: Setting Up Your Tropical Terrarium

Choosing the Right Container for your Terrarium

When it comes to creating a successful terrarium, choosing the right container is essential. The container you select will not only determine the overall aesthetic of your terrarium but also impact the health and growth of your tropical plants. There are several factors to consider when choosing the right container for your terrarium, including size, shape, and material.

First and foremost, the size of your container is crucial. A larger container allows for more space for your plants to grow and thrive, while a smaller container may limit the growth potential of your plants. It's important to choose a container that is large enough to accommodate the root systems of your plants but not so large that it overwhelms the space in which your terrarium will be displayed.



In addition to size, the shape of your container is also important. Terrarium containers come in a variety of shapes, including round, square, and rectangular. The shape you choose will depend on your personal preference and the layout of your terrarium. Keep in mind that certain shapes may be more conducive to creating different terrarium designs, so consider the overall look you want to achieve when making your selection.

The material of your container is another important consideration. Terrarium containers are typically made of glass or plastic, with each material offering its own set of benefits. Glass containers are aesthetically pleasing and provide a clear view of your plants, while plastic containers are lightweight and durable. Consider the pros and cons of each material before making your decision.



Ultimately, the right container for your terrarium will depend on your personal style, the size of your terrarium, and the plants you plan to include. Take your time to explore different options and choose a container that not only complements your tropical plants but also enhances the overall beauty of your terrarium. By selecting the right container, you'll set yourself up for success and create a stunning tropical terrarium that you can enjoy for years to come.

Selecting the Ideal Location for your Tropical Terrarium

Selecting the ideal location for your tropical terrarium is crucial to the success of your miniature ecosystem. When choosing a spot for your terrarium, it is important to consider the lighting, temperature, and humidity requirements of the plants you plan to include. Tropical plants thrive in warm, humid environments with plenty of indirect sunlight. This means that placing your terrarium near a window that receives filtered sunlight or using a grow light to supplement natural light is essential.



In addition to lighting, you should also consider the temperature of the location where you plan to place your tropical terrarium. Most tropical plants prefer temperatures between 18-26 degrees Celsius, so it is important to avoid placing your terrarium near drafts or heating vents that could cause fluctuations in temperature. It is also important to avoid placing your terrarium near air conditioning units or radiators that could create extreme temperature changes.

Humidity is another important factor to consider when selecting the location for your tropical terrarium. Tropical plants require high humidity levels to thrive, so it is important to choose a container that has an air-tight lid or seal to keep the humidity inside the closed terrarium.

When selecting the ideal location for your tropical terrarium, it is important to consider the size and shape of the container you plan to use. Larger terrariums may require more space and a sturdy surface to support their weight, while smaller terrariums can be placed on a table or shelf. It is also important to consider the aesthetic appeal of the location, as your terrarium will be a focal point in your home or office.

Overall, selecting the ideal location for your tropical terrarium is a critical step in creating a successful miniature ecosystem. By considering the lighting, temperature, humidity, and size of the container, you can ensure that your tropical plants thrive and grow beautifully in their new environment. With a little planning and care, you can create a stunning tropical terrarium that will bring joy and beauty to your space for years to come.



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Chapter 3: Drainage Layers


Importance of Drainage in a Tropical Terrarium

One of the main reasons why drainage is so important in a tropical terrarium is to prevent waterlogged soil. Tropical plants thrive in moist environments, but they also need well-draining soil to prevent their roots from sitting in water for extended periods of time. By incorporating drainage layers at the bottom of your terrarium, you can ensure that excess water can easily escape, allowing the roots to access the moisture they need without becoming waterlogged.

Another key reason why drainage is crucial in a tropical terrarium is to prevent the build-up of harmful toxins. When water is unable to drain properly, it can become stagnant and stagnant water can quickly become a breeding ground for harmful bacteria and fungi. These toxins can harm your plants, leading to a decline in their health and vitality. By providing proper drainage, you can help to ensure that your tropical terrarium remains a healthy and thriving ecosystem.

Proper drainage also plays a role in maintaining the overall balance of your terrarium's ecosystem. Without adequate drainage, excess water can lead to imbalances in humidity levels, which can impact the health and growth of your plants. By incorporating drainage layers into your terrarium setup, you can help to regulate moisture levels and create a more stable environment for your plants to thrive.





In conclusion, the importance of drainage in a tropical terrarium cannot be overstated. By understanding the role that drainage plays in maintaining a healthy and balanced ecosystem, you can create a thriving environment for your plants to flourish. So, whether you are a beginner or a seasoned terrarium enthusiast, be sure to prioritize proper drainage in your tropical terrarium setup for the best results.

The Different Types of Drainage

In the world of terrariums, proper drainage is essential for the health and longevity of your plants. There are several different types of drainage systems that can be used in terrariums, each with its own benefits and drawbacks.

LECA (lightweight expanded clay aggregate) is an excellent choice for a drainage layer. Although not as visually appealing as some of the other materials, these little balls can absorb around 30% of their weight in water. They will also increase the humidity within your terrarium. Be sure to wash the LECA before adding it as your drainage layer as it can be quite dusty. It's best to wash the LECA outside to keep the clay particles out of your plumbing.

Sand (Aquarium Grade) is another fantastic choice for drainage. It is much more visually appealing than LECA as you can get multiple different colours. You can also mix and match the different colours of sand on top of each other for even more visual interest. Make sure the sand you use is designed for aquariums though as cheaper options like play sand or sand used for construction has a lot of small particles that can leave your terrarium looking cloudy.

Lava Rocks is my third pick for your drainage choices, it is a combination of both the previous examples. It's lightweight, absorbs moisture and is visually appealing. It's a nice middle ground between the two other options. Just like almost everything you plan on putting inside your terrarium, the lava rocks must also be cleaned thoroughly.

Honourable alternatives that can be cheaper is gravel and small rocks. These can be found almost everywhere and although they are generally cheaper they will not usually give any added benefits besides being a drainage layer. They will be a lot heavier than the other options and generally not absorb much moisture, if any. If you have collected them yourself you will also increase the risk of adding harmful bacteria and microorganisms from outside into your terrarium.

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Chapter 4: Barriers for Longevity



Mesh Layers and Their Importance

In the world of terrariums, the importance of mesh layers cannot be overstated. These layers play a crucial role in the overall health and success of your tropical terrarium. Mesh layers act as a barrier between the different substrate layers, allowing for proper drainage and preventing soil compaction. Without these layers, the roots of your plants may become waterlogged and susceptible to root rot.

One of the main functions of mesh layers is to provide a stable foundation for your terrarium. By creating a barrier between the substrate layers, mesh helps to prevent soil from sinking into the drainage layer over time. This ensures that your plants have adequate space for their roots to grow and thrive. Additionally, mesh layers help to maintain proper aeration within the terrarium, which is essential for the health of your plants.

When choosing a mesh material for your terrarium, it is important to select a durable and breathable option. Many terrarium enthusiasts opt for plastic mesh or weed control mesh due to its flexibility and longevity. Keeping your roots from venturing into the drainage layer will help stop them sitting in excess water for prolonged periods.

In conclusion, mesh layers are an essential component of any tropical terrarium setup. They provide stability, drainage, and protection for your plants, ensuring their health and longevity. By understanding the importance of mesh layers and selecting the right materials for your terrarium, you can create a thriving ecosystem that will bring joy and beauty to your home for years to come.

Activated Charcoal and It's Importance

Activated charcoal is a crucial component in the layering of a tropical terrarium. This highly porous form of carbon has the ability to absorb toxins, odours, and impurities from the soil and air, making it an essential element in creating a healthy and thriving environment for your plants. When used in the proper way, activated charcoal can help to maintain a balanced and clean terrarium ecosystem, allowing your plants to flourish and thrive.

One of the primary benefits of using activated charcoal in your terrarium is its ability to filter out harmful substances from the soil. By absorbing toxins and impurities, activated charcoal helps to prevent the build-up of harmful chemicals that can be detrimental to the health of your plants. This means that your plants will be able to absorb nutrients more effectively and grow stronger and healthier as a result.

In addition to its filtering capabilities, activated charcoal also helps to improve air quality within the terrarium. By absorbing odours and pollutants from the air, activated charcoal helps to create a clean and fresh environment for your plants to thrive in. This can be especially beneficial in tropical settings where humidity levels are high and the risk of mould and mildew growth is increased.

When adding activated charcoal to your terrarium, it is important to place it in a layer between the soil and drainage materials. This will ensure that the charcoal can effectively filter out impurities without becoming saturated with water. Our terrarium substrate has activated charcoal as a component but for extra benefits it's best to include a layer of activated charcoal above or below the mesh barrier.

Overall, activated charcoal plays a vital role in creating a healthy and balanced environment for your tropical terrarium plants. By absorbing toxins, odours, and impurities from the soil and air, activated charcoal helps to promote plant growth and vitality. Incorporating activated charcoal into your terrarium layers is a simple and effective way to ensure the long-term health and success of your tropical plants.



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Chapter 5: Substrate Layers

Types of Substrates Suitable for Tropical Terrariums



There are multiple different options for your terrarium substrate but I will only be covering the best and explaining why its so crucial for your success. The terrarium substrate is the backbone of your whole ecosystem and it's vital that this layer is perfect. The only terrarium substrate I can advise you to use is from Soil Ninja and is a blend of coco coir, bark, sand, worm castings, zeolite, activated charcoal. We have mentioned the benefits of activated charcoal already so let's cover the others.

Coco coir is a natural waste product of the coconut growing industry and is perhaps the most versatile of all organic growing mediums. As an environmentally friendly alternative to peat moss, coco peat has a natural resistance to diseases and provides excellent water retention as well as aeration to plants

One of the major benefits of using bark in terrariums is its ability to retain moisture. Bark acts as a natural sponge, absorbing water and releasing it slowly over time. This helps to create a humid environment, which is particularly beneficial for species that require higher humidity levels to thrive.

Sand is a fantastic addition to a terrarium substrate as it will stop the substrate becoming muddy and compacted over time which would in turn effect the ability to cycle the water around your terrarium. Trapped pools of stagnate water can cause several issues for the longevity of your beautiful terrarium.



Worm Castings contain high amounts of nutrients like iron, manganese, calcium, magnesium, phosphorus, and potassium. They have the potential to significantly enhance the strength of plant roots, benefiting both indoor and outdoor plants. By incorporating worm castings into a terrarium substrate, root mass is amplified, enabling plants to absorb water and nutrients more effectively.

Zeolite is a crystalline mineral made up of silicon, aluminium, and oxygen. These components create cavities and channels inside the mineral that attract water and other small molecules. Because of all the channels inside the mineral, zeolite is capable of holding up to 60% of its weight in water. This means that when soil is amended with zeolite, the moisture content of the soil will increase.

How to Properly Layer Substrate in your Terrarium

In order to create a successful and thriving terrarium, it is crucial to properly layer the substrate within the enclosure. This step is essential for providing the necessary drainage, aeration, and nutrients for the plants living within the terrarium. By following these guidelines, you can ensure that your tropical terrarium will flourish and thrive for years to come.

The first step as mentioned is your choice of drainage layer. The amount required will vary on your jar but as a general rule of thumb for any terrarium, the layers should roughly take up around 30% of the total jar size. This will give ample drainage and enough substrate for your plants to thrive and grow into the remaining 70%.

After the drainage is the activated charcoal and the mesh barrier, these can go in either order. When using larger drainage like LECA I prefer to put the mesh in first followed by the charcoal so that the smaller charcoal does not fall in-between the drainage gaps. When using sand I prefer to put the activated charcoal before the mesh as it has nowhere to fall and then forms a second charcoal layer with the addition of activated charcoal within the substrate.



Once the barrier and activated charcoal are in place, it is time for the all important terrarium specific substrate. The 30% rule of thumb is not strict and for some terrariums is simply not possible. It is best to try aim for something similar while keeping in mind how much substrate and space your plant choices are going to require.

Design Tips and Ideas for your Terrarium

When designing a terrarium, there are several key tips and ideas to keep in mind to create a beautiful and thriving tropical setting. One of the most important aspects of a terrarium is the layers, which play a crucial role in providing the right environment for your plants to flourish. Understanding how to properly layer your terrarium is essential for creating a healthy ecosystem that mimics the natural habitat of tropical plants.

After adding the substrate layer, you can start to plant your tropical plants in the terrarium. When selecting plants, be sure to choose species that are well-suited for the conditions of a terrarium, such as high humidity and indirect sunlight. You can add a lot of depth to your terrarium by simply sloping the substrate up the 'back' of your vessel. Adding a staircase of our bark, slate or stones that gradually get smaller towards the back will really help with the illusion of depth.

To add a decorative touch to your terrarium, consider incorporating elements such as decorative rocks, moss, or small figurines. These additions can help to create a visually appealing display. Experiment with different arrangements and combinations to create a unique and personalized design that reflects your own style and preferences.

By following these design tips and ideas for your terrarium, you can create a stunning tropical setting that will bring a touch of nature into your home. With the right layers, plants, and decorative elements, you can design a terrarium that is not only beautiful to look at but also a thriving ecosystem for your tropical plants to grow and flourish.

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Chapter 6: Conclusion and Next Steps

Reviewing Key Concepts Learned in the Book

In this subchapter, we will be reviewing the key concepts learned in the book "From Beginner to Pro: Mastering Terrarium Layers in Tropical Settings." As terrarium beginners, it is important to understand the different layers that make up a successful tropical terrarium environment. By mastering these layers, you will be able to create a thriving ecosystem for your plants.



The first key concept to review is the bottom layer of the terrarium, known as the drainage layer. This layer is essential for preventing water from pooling at the bottom of the terrarium, which can lead to root rot and other issues. By using materials such as LECA, sand or lava rocks, you can create an effective drainage system that will keep your plants healthy and happy.

Next, let's review the middle layers of the terrarium, which consists activated charcoal, mesh barrier and substrate. These layers are where your plants will root and grow and provide a barrier for the substrate to allow the water to cycle around your vessel efficiently.

Moving on to the top layer of the terrarium, which is made up of decorative elements such as rocks, moss, and bark. This layer adds visual interest to your terrarium.. Be creative with your design choices and consider the needs of your plants when selecting materials for the top layer.

Finally, let's review the importance of maintaining the balance of these layers in your tropical terrarium. By regularly monitoring and adjusting the moisture levels, temperature, and lighting in your terrarium, you can create a harmonious environment that supports the growth and well-being of your plants and animals. Remember to research the specific requirements of the species you are keeping in your terrarium and make adjustments as needed to ensure their health and happiness.



Continuing Your Terrarium Journey as a Pro

Congratulations on making it to the pro level of terrarium making! You have mastered the basic concepts of terrarium layers in tropical settings, and now it is time to take your terrarium journey to the next level. In this subchapter, we will explore advanced techniques and tips to help you continue growing as a terrarium pro.

One key aspect of being a terrarium pro is understanding the importance of maintaining the balance of your terrarium layers. As you continue to experiment with different plants and materials, keep in mind the specific needs of each layer. Make sure to regularly check the moisture levels, lighting conditions, and temperature to ensure that your terrarium remains healthy and thriving.

Another important consideration for pro terrarium makers is the selection of plants. Now that you are more experienced, you can start to incorporate a wider variety of plants into your terrarium. Be sure to research each plant's specific requirements before adding them to your terrarium, and consider how they will interact with the other plants and layers in the ecosystem.

As a pro terrarium maker, you may also want to experiment with different types of terrarium containers and designs. Consider using unique shapes and sizes, or even creating a terrarium that mimics a specific landscape or environment. This can add an extra level of creativity and artistry to your terrarium making.

Finally, never stop learning and growing as a terrarium pro. Stay connected with other terrarium enthusiasts, attend workshops and seminars, and continue to research new techniques and trends in terrarium making. The world of terrariums is constantly evolving, and by staying engaged and curious, you can continue to push the boundaries of what is possible in tropical terrarium layers.