

Let's Get It Started!

THE MAKING OF NATURE AQUARIUM™

ADA BEGINNER'S GUIDEBOOK





Let's Get It Started! Nature Aquarium

Nature Aquarium expresses natural scenery by placing driftwood and stones and planting aquatic plants in an aquarium tank.

In this type of aquarium, an environment resembling a natural ecosystem is created and aquatic plants, fish and microorganisms coexist in prosperity.

Mother Nature teaches us everything.

Let's start Nature Aquarium that brings nature close to you.

Setting Up a Tank and Substrate



1. Install the tank on an aquarium cabinet

Be sure to install the tank on a cabinet specifically designed for aquarium tank so that you can use the tank safely for a long time. Use Garden Mat for enhanced earthquake protection.



Garden Mat absorbs vibration and helps prevent the tank from falling off the cabinet.



Garden Mat



Place a level gauge at the bottom of the tank to ensure a leveled installation.

Tank: Cube Garden W60×D30×H36 (cm)
Cabinet: Plain Cabinet (Off White) W60×D30×H70 (cm)



2. Sprinkle substrate additives on the bottom of the tank

To promote the growth of beneficial bacteria and keep a good substrate environment, evenly sprinkle substrate additives such as Bacter 100, Clear Super and Tourmaline BC.



The standard amount of substrate additives to be used is 3 spoons for a 60cm tank (spoon is provided).



Bacter 100

Clear Super

Tourmaline BC

You need to select a tank carefully and install it in a safe manner, because you cannot replace the tank easily once it has been set up. Meanwhile, the substrate of Nature Aquarium is very important for the healthy growth of aquatic plants and long-term maintenance of aquascape. Build the substrate securely with great care.



3. Spread Power Sand and flatten the surface

Spread Power Sand on top of the substrate additives. Power Sand supplies organic nutrients that nourish microorganisms and prevents hardening of substrate that commonly takes place during long-term maintenance of aquarium.



Substrate looks neat if you spread Power Sand away from the front line of the tank by about 1cm.



Power Sand S



Sand Flattener



4. Spread Aqua Soil-Amazonia

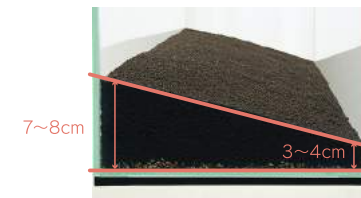
Containing rich natural organic compounds, Amazonia is ideal substrate soil for Nature Aquarium, which effectively promotes the growth of plants. Pour Amazonia in the aquarium directly from the bag.



Smooth out the Amazonia soil surface with Sand Flattener. Make a slope while flattening the surface.



Sprinkle Powder type slowly using a plastic container, etc.



7~8cm

3~4cm



Aqua Soil-Amazonia

Choosing Layout Materials and Making Composition



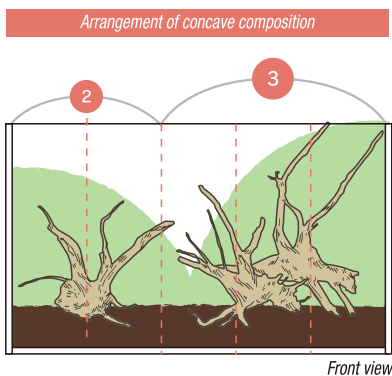
1. Choose layout materials suitable for the tank size

Driftwood (Slim Wood) and Sansui Stone were chosen for this layout. Driftwood having the size suitable for placing a few pieces together in a tank is ideal for achieving a good balance.

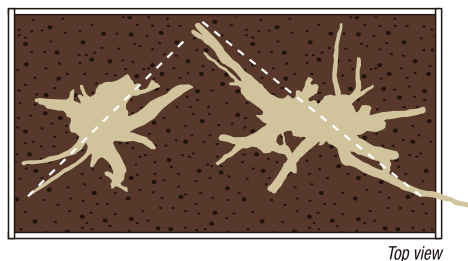


2. Arrange driftwood considering a good balance

In this layout, the driftwood are arranged based on the most basic concave composition. Pay attention to the orientations and angles of each branch to achieve a good balance.



To avoid the composition from becoming symmetric, place driftwood pieces at 2:3 ratio between right and left sides. This geometric proportion is aesthetically pleasing to the eye. In concave composition, the perspective in aquascape can be expressed if driftwood are arranged into a reverse V shape when viewed from above.



In Nature Aquarium, the composition which serves as the framework of the layout is made using aquatic plants as well as composition materials such as driftwood and stone. The composition is an important factor that decides the quality of the aquascape. There are three types of basic compositions, namely concave, convex and triangular compositions.

3. Secure a space for planting aquatic plants

Securing a planting space is an important point during the arrangement of composition materials such as driftwood and stone. Place the composition materials while considering the planting space in foreground, mid-ground and background. Mid-ground is the section consisting of driftwood and the space around them.



Lineup of ADA composition materials


※Slim Wood used for this layout is no longer available. However, you can use Branch Wood as a substitute for Slim Wood.

Used in this layout




Slim Wood

Used in this layout




Kei Stone




Sansui Stone


Used in this layout




Branch Wood




Koke Stone




Unzan Stone



Horn Wood

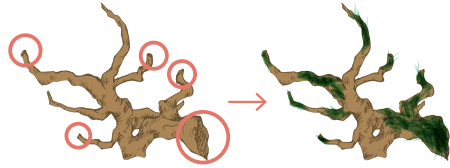


Ryuoh Stone



Yamaya Stone

4. Fix Willow Moss on driftwood



Attaching moss to driftwood can conceal unnatural portions such as cut sections of driftwood.



Spread moss thinly on the dampened driftwood surface and securely fix with Moss Cotton.

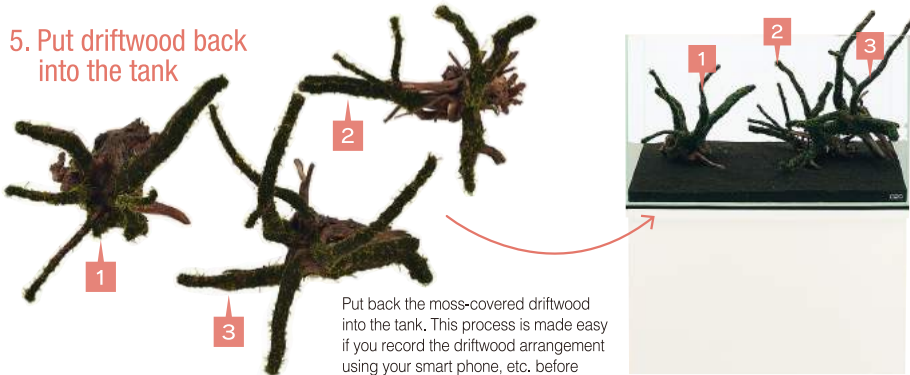


A point here is to cut off the protruding mosses after fixing mosses on driftwood.



Once you have decided on how to arrange the driftwood, remove them from the tank and tie Willow Moss on them.

5. Put driftwood back into the tank



Put back the moss-covered driftwood into the tank. This process is made easy if you record the driftwood arrangement using your smart phone, etc. before removing driftwood from the tank.

6. Hold driftwood in place with stones



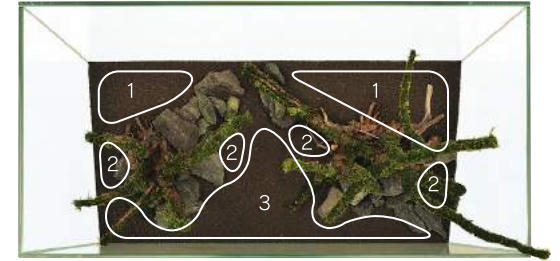
Hold the driftwood in place by placing stones around the wood. These stones will also add a natural feel to the layout.



Place the stones in such way that they look natural. It is convenient if some small stones are prepared beforehand.

7. Envision the arrangement of aquatic plants

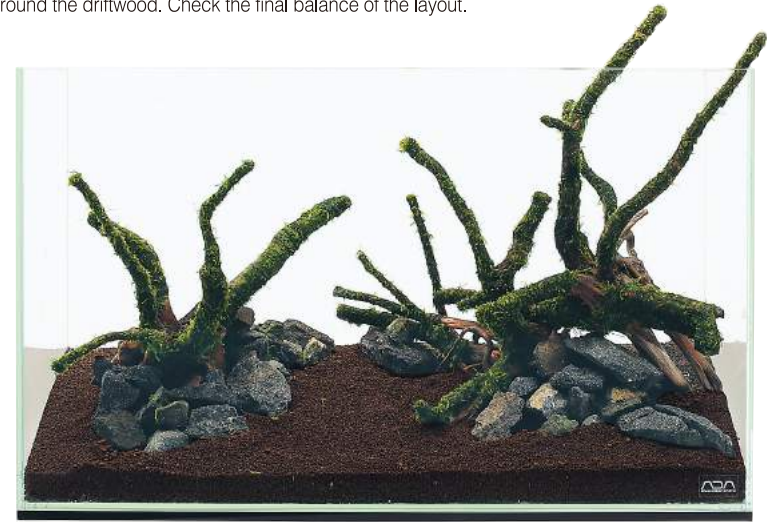
Once the driftwood and stones are placed in the tank, the next thing to think is how to arrange aquatic plants. In the areas where the substrate is uncovered, you can plant foreground plants, Cryptocoryne, stem plants and others. On the other hand, in the mid-ground where driftwood and stones are placed, only epiphytic plants such as ferns and Anubias can be planted. Aquatic plants should be planted in such way that their heights will be progressively taller in the order of "foreground → mid-ground → background".



1. Background 2. Mid-ground 3. Foreground

8. Completion of composition framework

The making of composition framework is completed once the moss-wrapped driftwood are put back into the tank and Sansui Stones are placed around the driftwood. Check the final balance of the layout.



Preparation and Procedures of Planting



1. Preparations before planting

Before planting aquatic plants, pour some water to the substrate until the foreground is barely submerged for making planting easy with tweezers.

BIO MIZUKUSA NO MORI used for this layout

Before use, remove the plants from the cup and lightly wash off the agar media under water.



scan
MIZUKUSA NO MORI
Lineup

BIO Glossostigma

BIO Cryptocoryne Wendtii 'Green Gecko'

BIO Cryptocoryne axelrodii

Wash off the agar media with water to prevent fungal growth after planting (the agar media contains rich nutrients).

Wabi-kusa used for this layout

Wabi-kusa grown healthily in pesticide-free environments can be used just by placing them in an aquarium.



scan
Wabi-kusa
Lineup

Ludwigia sp. 'super red' x 2 / Ludwigia arcuata x 2 / Rotala sp. 'Nanjean' x 2 / Rotala sp. 'Ceylon' x 2 / Rotala rotundifolia 'Green' x 2 / Rotala indica x 2

Once the composition framework is made, the next process is planting. There are many types of aquatic plants, including foreground plants, stem plants and epiphytic plants, and the appropriate planting method varies by the type. Care should be taken to prevent the plants from drying during planting.




2. Plant mid-ground and foreground plants

Aquatic plants are basically planted in the order of mid-ground, foreground, background and epiphytic plants. For this layout, the planting started with Cryptocoryne beside the driftwood in the mid-ground.

Planting mid-ground plants


Plant Cryptocoryne firmly in the mid-ground using Pro-Pinsettes Grip type.



Pro-Pinsettes Grip type L

Planting foreground plants

Plant Glossostigma in the foreground. Simple Pinsettes are a powerful tool for this planting.



Pinsettes L



3. Place wabi-kusa in the background

Tall aquatic plants such as stem plants and the plants having tape-like leaves are suitable to be planted in the background. In this layout, single-type stem plant wabi-kusa was used for the background.

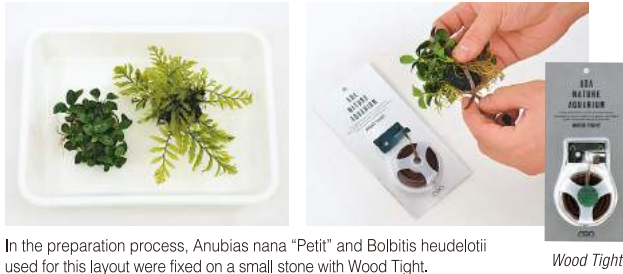
Place wabi-kusa in the background. The substrate of the background is higher than other sections.

Background after placing wabi-kusa

Place more wabi-kusa and plant some striking red stem plants on the right side of the layout where the focal point of concave composition is located.

4. Preparation of epiphytic plants

Epiphytic aquatic plants such as ferns (*Bolbitis* and *Microsorium*) and *Anubias* are usually attached to stones and driftwood. Besides attaching directly to driftwood, you can fix a bunch of epiphytic plants to small stones to make the arrangement of these plants easier. Cut off the damaged leaves before planting.



In the preparation process, *Anubias nana* "Petit" and *Bolbitis heudelotii* used for this layout were fixed on a small stone with Wood Tight.

5. Arrangement of epiphytic plants

Next, attach the epiphytic plants prepared to the composition materials. Layout becomes more stable if *Bolbitis* is placed between the driftwood pieces while *Anubias* is placed between driftwood and stone. Epiphytic plants add a natural feel to the layout.



Shade-loving *Anubias* can grow even in low light environments. This plant is placed in shady gaps between driftwood and stones.



Placing *Bolbitis* at the joints of driftwood also has an effect of holding arranged driftwood pieces together.

6. Pour water while avoiding the water from becoming cloudy

When all the planting is done, smooth out the substrate in the foreground and pour water into the tank. If the water becomes very turbid, remove all the cloudy water and add clear water. Meanwhile, some driftwood can float out of the substrate. Place a heavy stone on the driftwood and monitor if the wood floats.



Gently pour water so that Aqua Soil surface will not be hollowed.



Adjust the tap water temperature to 23-25°C. Add Chlor-Off to eliminate chlorine residue in tap water.



7. Completion of planting



Top view

When viewed from above, you can see the balance of the plants between front and back, right and left sides. You can also make sure that the areas where *Glossostigma* and stem plants are planted do not cast a shadow on other aquatic plants and driftwood.



Front view

Once the water is full, scoop out the dust and rubbish on the water surface with a net. In this layout, a stone is temporarily placed on the driftwood on the left side to prevent the wood from floating up.

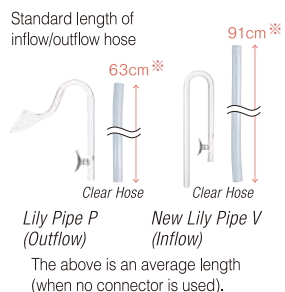
Setting of Equipment

1. Connect a hose to Lily Pipe

Connect the filter and Lily Pipe using a slightly longer hose rather than a hose having just the right length. The hose length stated in the illustration on the right is the standard length when a 60cm tank and Plain Cabinet are used.

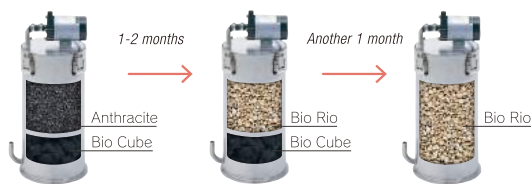


Lily Pipe is a glassware. Do not apply excessive force to this equipment.



2. Filling the filter media and the order of replacement

Super Jet Filter ES-600 comes with filter media Bio Cube and anthracite. This combination of filter media is suitable for the initial stage of aquarium setup. When the water quality becomes stable, replace the filter media as shown in the right diagram.



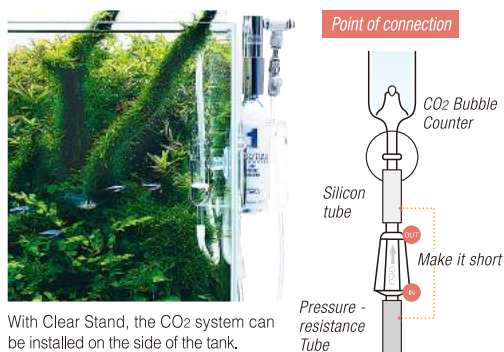
Suitable for the initial stage of aquarium setup, but filter easily gets clogged.

Keep Bio Cube but replace anthracite with Bio Rio.

Replace all with Bio Rio. Water quality will be stable for a long time.

3. Installation of CO2 Advanced System

You can start supplying CO2 easily by using CO2 Advanced System including all the equipment and parts necessary for CO2 supply. Note that this example uses additional Clear Stand (optional).



Attach a CO2 bottle to the regulator (YAVer.2) and install to the tank using Clear Stand.



Connect the tube to the system as shown above and install the Pollen Glass around the middle of the water depth.



Install CO2 Bubble Counter on the side of the tank. Pour some water in the Counter in advance.



CO2 will be supplied if you turn the fine adjustment screw of speed controller. The key is to turn the screw slowly.

After the planting is completed, install the filter, CO2 system and lighting system. It is important to choose high quality equipment having capacity suitable for the tank size so that a conducive environment will be stably maintained in the tank for a long time.



4. Install AQUASKY MOON

AQUASKY MOON 601 is a stylish LED lighting system. It can be installed above the aquarium with exclusive acrylic stand and serves as a sophisticated interior decoration item. Lighting hours should be limited to 8-10 hours a day, since longer lighting hours can promote algal growth. With NA Control Timer (optional), you can link the ON/OFF of light and CO2 supply.



The exclusive stand of AQUASKY MOON is compatible with Cube Garden. Its design does not affect the appearance of Lily Pipe.



NA Control Timer

You can control CO2 supply according to ON/OFF of the lighting system.

5. Completion of equipment setup

The Mirror Unit was attached to AQUASKY MOON 601. The entire lineup of ADA Goods is developed out of the common design concept.

AQUASKY MOON 601

Lily Pipe P-2 (Outflow)

New Lily Pipe V-3 (Inflow)

NA Thermometer J-06WH

CO2 Advanced System

Clear Stand for CO2 System 74

Super Jet Filter ES-600

Aquarium Thermometer

NA Thermometer J (for 6mm glass thickness)

You can put a filter in Plain Cabinet from the side and store it inside.

Maintenance in the Initial Stage of Aquarium Setup

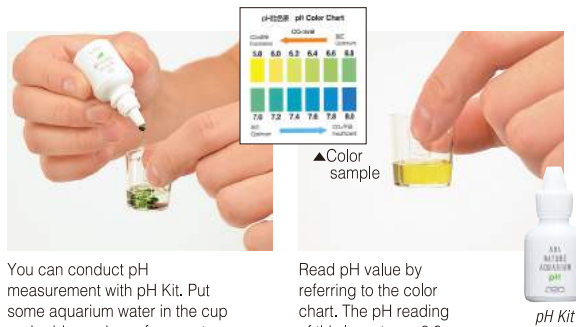
1. Observe the aquarium to understand its condition

In 2-3 days after the setup of aquarium, the water becomes slightly cloudy or turns a little brownish. This is a common symptom during the initial setup stage and you do not need to worry about it. When this problem occurs, you need to take measures such as water change. Firstly, observe the aquarium carefully to understand its condition.



2. Measure pH, the basic index of water quality

Measure pH, the basic index of water quality, before water change. pH is a numeric scale used to specify the acidity or alkalinity of an aqueous solution (pH7.0 is neutral). Mildly acidic water (around pH6.0) is suitable for growing aquatic plants. ADA's pH Kit is a water quality testing reagent for monitoring the water quality for the aquarium in the initial stage and onwards.

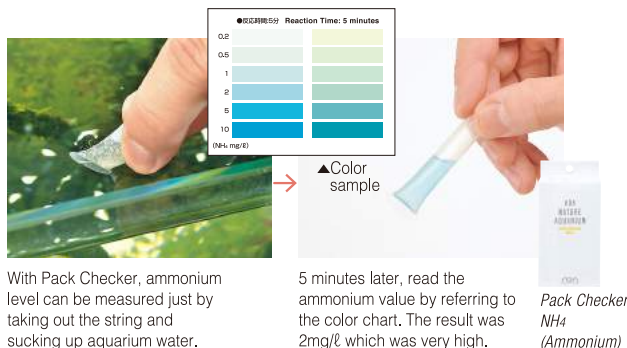


You can conduct pH measurement with pH Kit. Put some aquarium water in the cup and add one drop of reagent.

Read pH value by referring to the color chart. The pH reading of this layout was 6.0.

3. Measure ammonium to understand the water pollution

Measure the ammonium (NH₄) level with Pack Checker to know how dirty the water is. With Pack Checker, water quality test is easily done just by drawing some aquarium water into the test kit. A high concentration of ammonium is detected during the initial stage of aquarium. Once the biological filtration starts working, it will decrease.



With Pack Checker, ammonium level can be measured just by taking out the string and sucking up aquarium water.

5 minutes later, read the ammonium value by referring to the color chart. The result was 2mg/l which was very high.

Aquarium water easily becomes dirty particularly in the initial stage of the aquarium setup (1-2 weeks after planting). A key point to maintenance during this period is focusing on water change. It is important to conduct water quality check to know the rapidly changing condition of aquarium.

4. Water change and application of liquid fertilizers

Remove about 1/3 to 1/2 of aquarium water and add new water after eliminating chlorine residue. In winter, add some hot water to the new water to adjust the water temperature to 23-25°C. After water change, add liquid fertilizers to supply potassium and trace elements.



Remove dirty water with a hose, around 1/3 of the aquarium water.

After water change, liquid fertilizers were added, 3 pushes each.

Brightly K + Green Brightly STEP1

5. How the aquarium looks like after water change

The water clarity is improved and the aquarium looks brighter. Photosynthesis of aquatic plants also becomes more active. Photosynthesis will be further promoted if Brightly K is added to the aquarium.



Maintenance in Week 1 and Elimination of Algae

1. Eliminate algae inside the tank

Aquarium water easily becomes dirty and algae grow particularly in the initial stage of the aquarium setup (1st week of the aquarium). If this problem occurs, do not worry but eliminate algae manually as much as possible.



Pro Razor

Algae on glass wall can be easily and effectively removed just by lightly scraping the surface with Pro Razor.



Stone is removed once the driftwood has absorbed sufficient water and stays on the substrate without floating up.



Brown cotton-like diatom appears in the initial stage of aquarium. This algae can easily be siphoned out.

2. Clean the glassware

Clean the glassware such as Pollen Glass by soaking in Superge, the detergent specifically designed for glassware. If algae grow on Pollen Glass, the air bubbles from the diffusing filter get larger and the CO₂ diffusing efficiency decreases.



Dirty Pollen Glass can be easily cleaned with Superge.

Superge



Spring Washer is a convenient tool for cleaning Lily Pipe.

Spring Washer S

3. Test the water quality to check the filtration

Biological filtration starts working around one week after the setup of the aquarium. Test the water quality using Pack Checker and check the filtration performance of the filter.



The ammonium level decreased (0.2mg/L) due to growth of nitrifying bacteria.



Pack Checker NH₄ (ammonium)



A high level of nitrite (formed from ammonium and is harmful) is shown (0.5mg/L)



Pack Checker NO₂ (nitrite)



When biological filtration starts working fully, nitrite will quickly be converted into nitrate.



Pack Checker NO₃ (nitrate)

During the initial stage, brown algae often grow on the aquatic plants and glass surface of aquarium. In this period when algae actively grow, it is important to eliminate algae in conjunction with water change.

4. Add algae eater to the tank

To control the algal growth, add 3-5 algae eating *Otocinclus* sp. and 1-3 *Crossocheilus siamensis* to the tank. At this stage, *Caridina japonica* should not be added yet as this shrimp is vulnerable to nitrite.



Otocinclus sp.



Crossocheilus siamensis



When you purchase fish from a shop, put the plastic bag holding the fish in the aquarium and let it float unopened to acclimate the new fish to the tank temperature.



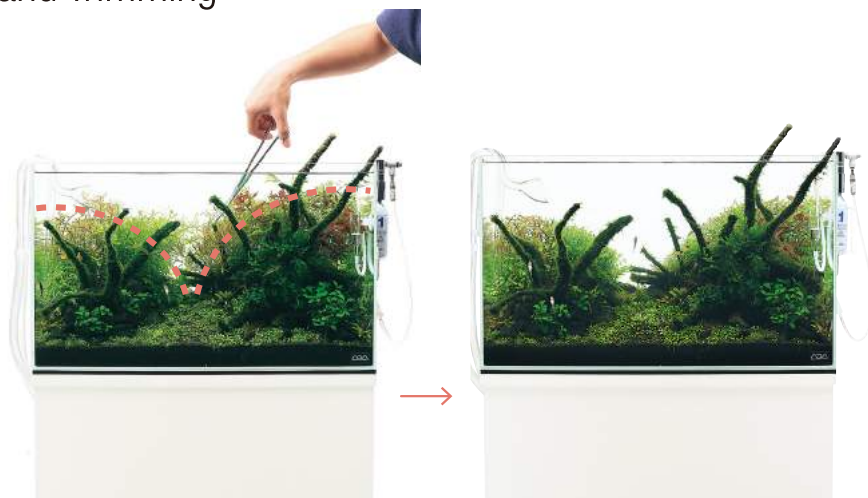
Open the plastic bag and slowly add aquarium water in the bag, and then release the fish into the tank.

5. Aquarium after the maintenance in Week 1

The aquarium looks good after algae were eliminated as much as possible and water change was conducted. Wabi-kusa stem plants start growing submersed leaves instead of emerged leaves.



Maintenance in Week 2 and Trimming

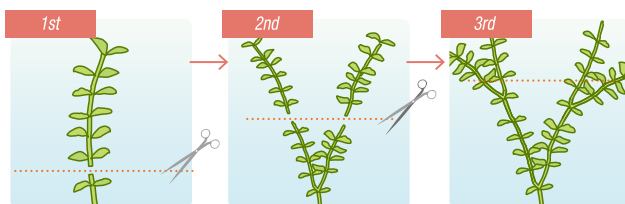


1. Cut the tall stem plants

Stem plants grow very fast and their terminal buds can reach the water surface in about 2 weeks after planting. If overgrown stem plants are left untrimmed, the open space in the planted aquarium will be filled with plant leaves and this can affect the appearance of the layout. Therefore, timely trimming is essential. During the very first trimming, you should cut the stem plants very short according to the lines of the layout materials, keeping the composition in mind.

Cut at a lower part of the plant for the first trimming

The density of stem plants increases through branching out of stems by gradually shifting the trimming position higher up the plant as shown in the illustration on the right. Repeat the trimming to have beautiful clusters of stem plants.



Choosing scissors and post-trimming care

Trimming Scissors Curve type was chosen for this task. After the trimming, scoop and eliminate the small pieces of cut stem plants floating on the water surface.



Trimming Scissors Curve type

Aquatic plants in wabi-kusa start growing very fast immediately after they are placed in the tank. If their leaves are about to reach the water surface, trim them in advance to maintain the intended composition. In 2 weeks after the initial setup, you can add *Caridina japonica* in the tank.

2. Add (10-20) *Caridina japonica* to the tank

Algae-eating *Caridina japonica* is very sensitive to water quality and particularly vulnerable to nitrite (NO_2). Before adding this shrimp to the tank, make sure that the nitrifying bacteria have adequately grown and the concentration of nitrite has lowered.



Caridina japonica



Caridina japonica is sensitive to water quality. Acclimation must be done thoroughly.

When nitrifying bacteria have sufficiently grown in about 2 weeks from the setup, the concentration of nitrite decreases.



Pack Checker NO_2 (nitrite)

3. 1 week after trimming

Trimmed stem plants started to grow new buds. To form a neat cluster, the protruding stems were cut off. (3 weeks after the aquarium setup)



Adding Green Gain

Stem plants lose their fast-growing terminal buds during trimming and therefore, they stop growing for a while after trimming. Add Green Gain to the tank to stimulate the formation of terminal buds which leads to beautifully grown stem plants.



Introducing Fish and Second Trimming



1. Procedures of introducing fish to the tank without affecting their conditions

To prevent the fish from poking its snout above the water, which is caused by dissolved CO₂, perform aeration by lifting Lily Pipe (Outflow) when adding fish to the tank.



Float in the tank to match the water temperature

If the water temperature in the plastic bag is very different from the aquarium water temperature, float the plastic bag unopened in the tank to match the water temperature.



Acclimate the fish slowly and gently release into the tank

Open the plastic bag and slowly pour aquarium water to acclimate fish. If the fish looks good, release them slowly into the tank.



2. Aquarium after fish are introduced

Besides aquatic plants, fish is also an essential part of Nature Aquarium. The ecosystem in the aquarium starts functioning only by introducing fish to the tank.

Introduced fish species

Be careful not to introduce too many fish and shrimp into the tank, otherwise, the good balance of the ecosystem can be lost (the number below is the standard number of fish to be added to a 60cm tank).



Paracheirodon axelrodi (10)



Hyphessobrycon megalopterus (10)



Colisa lalia (5)

When 4 weeks have passed since the setup, the environment in the aquarium starts to stabilize and the aquatic plants grow vigorously after the first trimming. Now it is the time for introducing fish to the aquarium. At the same time, perform another round of trimming to complete the aquascape.



3. Second trimming of stem plants

It is a classic technique to cut the stem plants at slightly above the previous trimming position. In addition, each stem plant species was cut into different height this time.



The height of the stem plants will be aligned in 2-3 weeks time and a beautiful cluster will be formed.



4. Cut Willow moss grown on the driftwood

Excessively thick Willow moss leads to heavy atmosphere of the aquascape and deteriorated condition of the plant. You should trim Willow moss before it gets too thick.



The point is to push the blade to the driftwood surface to cut the Willow moss into a thin layer.



Pro-Scissors Spring
Available in Straight and Curve types.

Feeding and Daily Maintenance

7 weeks have passed since the setup of the aquarium. Each aquatic plant thrives and an environment conducive to fish has been established. Fish are swimming merrily between the aquatic plant leaves while showing off their beautiful body colors. Such a sight truly resembles the aquatic environment in nature.



DATA

Tank Cube Garden W60×D30×H36 (cm)
 Lighting system AQUASKY MOON 601 Mirror Unit Set
 Lighting for 10 hours a day
 Filter system Super Jet Filter ES-600 (Bio Rio and NA Carbon)
 Substrate Aqua Soil-Amazonia, Power Sand S,
 Bacter 100, Clear Super, Tourmaline BC

CO2 Pollen Glass, three bubbles per second with CO2
 Bubble Counter (CO2 System 74-YA/Ver.2 used)
 AIR Aeration with Lily Pipe P-2 for 14 hours while
 lighting is OFF at night
 Additives Brighty K, Green Brighty STEP1
 Water change 1/3 water change once a week
 Water quality Water temperature 25°C pH: 6.8 TH: 20mg/l

1. Joyful time of feeding fish

The Fish Food AP series is nutrient-rich and highly-digestible fish food. This product also inhibits the growth of algae, a great enemy of healthy growth of aquatic plants. AP Glass enables healthy feeding to fish.



With AP Glass, you can feed your fish neatly and joyfully.



1. Fish Food AP-1 Premium
2. Fish Food AP-1
3. AP Glass

2. Nutrient supplementation for making aquatic plants more beautiful

The basic of nutrient supplementation to aquatic plants is to add potassium and trace elements that are easily lacking in the tank. STEP 1-3 containing different amount of trace elements allow nutrient supplementation according to the aquarium environment that changes in each stage of time.



For a 60cm tank, 3 ml (3 pushes) is the optimal amount of each fertilizer to be applied.



1. Green Brighty STEP 1
First 3 months after initial setup
2. Green Brighty STEP 2
3 months to 1 year after setup
3. Green Brighty STEP 3
1 year after setup onwards
4. Brighty K

3. Other daily maintenance

Besides daily feeding and nutrient supplementation, perform periodical maintenance including 1/3 water change once every 1-2 weeks, maintenance of filter media and cleaning of tools and equipment.



scan

You can watch the videos introducing the maintenance of filter media and cleaning of glassware.

Nature Aquarium Goods for 60cm tank

Lastly, this page introduces Nature Aquarium Goods necessary for enjoying Nature Aquarium in a 60cm tank contained in this booklet. All these products have been developed through actual experiences of making Nature Aquarium layouts. Their simple design brings out the beauty of aquascape.



- A** AQUASKY MOON 601 MIRROR UNIT Set
- B** Cube Garden W60×D30×H36cm
- C** Garden Mat for W60×D30cm
- D** Plain Cabinet (Off White) W60×D30×H70cm
- E** CO₂ Advanced System (White)
- F** Clear Stand for CO₂ System 74
- G** Super Jet Filter ES-600 For 36cm (H)
- H** Lilly Pipe P-2 / Ø13
- I** New Lilly Pipe V-3 / Ø13
- J** NA Thermometer J J-06WH



NA Control Timer
CO₂ Advanced System White

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