



It's all about the fish™



Aquarium Setup Guide



Water Care

Aqueon water care products are designed to provide effective solutions to aquarium setup and use. Simple to understand and apply, these products will help maintain the healthiest environment for your aquatic pets.



Nutrition Products

Aqueon nutrition products were developed with natural ingredients and colors, making it easy to keep fish healthy and energetic.



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Simple, Serene, Smart

It's all about the fish



An easy to maintain aquarium featuring platys and tetras can be colorful and entertaining. These extremely active species of fish coupled with smaller plants that will flow with the current will create a lively addition to your home or office.

I. Aquarium Keeping Is For Everyone

You are about to experience the joy and fascination of the home aquarium, which will bring beauty, serenity, physical and emotional well being along with a world of knowledge and wonderment to your household.

Beauty – The well-kept home aquarium enhances the warmth and beauty of any room in the house that it graces. It is art and it is science, as it literally and figuratively brings life to any home. It is a natural conversation piece and a source of pride for the whole family.

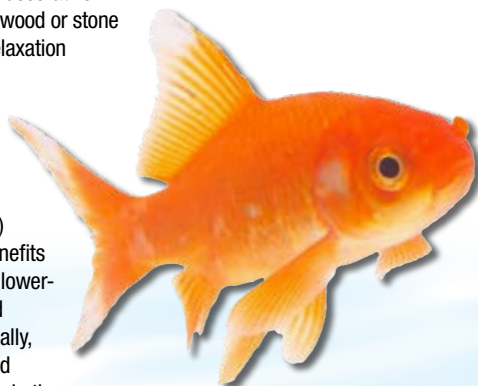
Serenity – An aquarium brings a sense of calm and entrancing peace of mind. A sparkling aquarium filled with lush plant life gently swaying in the current, a dazzling assortment of colorful, interesting tropical fish or goldfish and a tasteful array of man-made decorative objects and/or natural wood or stone will provide years of relaxation for all.

Health – Numerous studies have found that aquarium-keeping (as well as general pet ownership) offers physiological benefits to us humans such as lowering blood pressure and easing stress. Emotionally, the successful care and nurturing of aquatic life in the

home also builds self-confidence, self-respect, self-esteem and a sense of responsibility.

And while these qualities are important in the development of children, they are also uplifting at any age.

Education – Aquariums teach us about the wondrous ways of nature and the intricacies of an entirely unique aquatic ecosystem. We learn the science of water chemistry and how water supports life. We grow in our understanding of nutrition, social conventions and orders and how to live in a diverse and challenging world where not everybody has the same shape, coloration, fin length or scale pattern.



II. Location, Location, Location

Quick Tips: Location

- Do NOT place your aquarium near a window or door.
- Do NOT place your aquarium where it will receive drafts or direct sunlight.
- Make sure your aquarium is level and placed on an aquarium stand near an electrical outlet.

Some thought needs to go into where the aquarium will be placed. It's important to get it right the first time, since moving an established (and full) aquarium is not recommended. Here are some guidelines:

1. Structural integrity – even the basic 10-gallon starter aquarium can weigh nearly 100 lbs. when filled with water, gravel, decorative objects, filtration, heating equipment, lighting and fish. Each gallon of water alone weighs just over eight pounds! So you've got to ask yourself one question; is the resting place for this aquarium built solidly enough to support this weight day in and day out for years to come?

If you've acquired a metal stand or a cabinet designed to hold an aquarium, you're already in good shape. Aquarium stands are intended to support the weight of an aquarium and are the preferred base. Care may need to be taken to protect the surface from water.

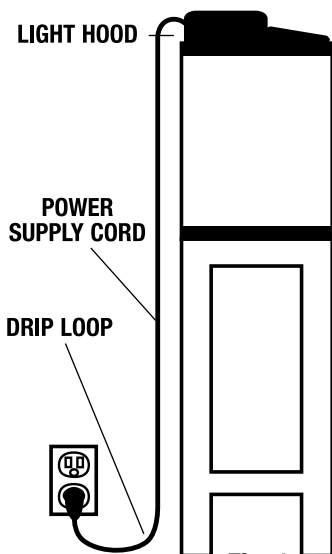


Fig. 1

While it is highly unlikely that the aquarium will break or develop leaks, water will escape the aquarium in small amounts as a byproduct of the natural functions integral to the aquarium keeping hobby—water

changing, glass cleaning, feeding, filter replacement, adding/removing fish, plants, heaters, decorative items, et. al.

2. Give it Your Level Best – Your aquarium must sit on a level surface. A disparity in the amount

close proximity to an electrical outlet.

If you have an enclosed aquarium stand, you can mount a power strip on the underside or an inside wall of the aquarium stand to provide some protection from paws, little hands and water.



Don't put your aquarium directly in front of a window.

of water pressure on one surface of the aquarium walls could certainly affect the structural integrity of the aquarium itself, and of the stand upon which it rests.

3. Here's a Shock – Water and Electricity Don't Mix – Since some of your aquarium equipment (lighting, filtration, heating, aeration and perhaps some decorative elements) requires electricity to operate, your aquarium should be placed within

One of the best and simplest tools that will enforce the separation of water and electricity is the “drip loop.” (see Fig. 1) The drip loop is formed by ensuring that the power cords leading into the outlet approach the outlet from underneath the plug socket. If water drips down a power cord it will fall off at the upward bend in the cord, never making it to the electrical outlet.

4. Smokin' Hot Aquarium: Exposed!

– You can keep your aquarium in a room exposed to natural light, but not in direct exposure to the sun. Keep the aquarium out of and away from windows. Too much sunlight creates two problems in an aquarium – water overheating and excess growth of unsightly, unhealthy algae.

5. Don't be Daft – Avoid The Draft –

Keep the aquarium away from chills, drafty locations, and open windows. Avoid areas of the home that are

inherently too warm, too cold or subject to changes in temperature. Temperature consistency is important in aquarium keeping, applying both to the liquid environment and to the ambient air temperature.

Your aquarium heater is designed to operate in a stable, temperature-controlled ambient environment. Most importantly, your fish are accustomed to a narrow range of water conditions, including a stable temperature that does not fluctuate.



The right location is a key component in the success of any home aquarium.

III. The Well-Appointed Aquarium—Your Guide To Interior Decorating For Fish

Quick Tips: Decorating

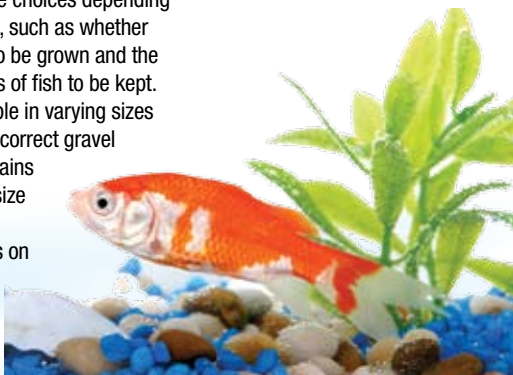
- Choose a substrate (gravel) suited to the type of fish you will be keeping.
- Rinse the substrate thoroughly before adding to the aquarium.
- Place appropriate decor in the aquarium.

Filling an aquarium with all the fixins' and trappings of home is a majorly fun part of establishing a habitat for fish from all over the world. And not only are aquarium accoutrements fun, but they're functional, too.

1. Let's start at the bottom, with the material we will use to create what is called the substrate of the aquarium. Most of the time, natural gravel is the most desirable, but there are other acceptable choices depending on other factors, such as whether live plants are to be grown and the size and species of fish to be kept. Gravel is available in varying sizes and colors. The correct gravel size (which pertains to the average size of each pebble) usually depends on personal preference, plant life,

and fish habits and size. Gravel color is usually just a matter of taste and aesthetics.

Other popular substrate materials aside from natural gravel include glass marbles or beads, sand and aragonite (crushed coral). These last two are used almost exclusively in saltwater aquariums as they raise the pH (more later about pH) of the aquarium water to a level that is too high for most freshwater fish.



Regardless of the type of substrate you choose, be sure to thoroughly rinse loose dirt and debris out of it before adding it to the aquarium, even if the product claims to be pre-cleaned. Rinse the gravel in a bucket until the water that you pour out of the bucket runs clear. Do not use soap or any other cleansers!

2. Do you want to grow live plants in your aquarium? Maybe not to start out with, but perhaps later as you become more comfortable with aquarium-keeping. If you choose to go the artificial route, there is no shortage of lifelike flora to add to the aquarium.

Today's artificial aquarium plants are highly-detailed replicas of their real-life counterparts, and are designed to look and move as if they were the real deal.



Some synthetic decorations can look very realistic and still be affordable.

Although live plants require more attention, when properly cared for they help create a healthier aquatic home for your fish and give the aquarium a more natural look. Your aquatics professional can recommend the right kind of plants for your level of experience and the type of habitat that you are trying to create. Your retailer can also provide you with the equipment and accessories that you may need to get the best results from your aquatic gardening, items such as proper lighting and plant nutritive products.

The benefits of live plants in the aquarium include higher levels of diffused oxygen during daylight hours (so fish can breathe easier) and lower nitrate levels. Live plants are also an excellent source of supplementary nutrition for your fish while also providing them with hiding places and even spawning grounds.

3. There has never been a better time to delve into the fascinating world of aquarium decorating, since there is now what seems to be a limitless selection of decorative items for the aquarium that offer both fun and function. These items vary in style from the outlandish and highly imaginative, to ultra-realistic replicas of natural objects.

There are basically three modes to choose from (or mix and match) – the completely unnatural look; the

natural look utilizing highly detailed man-made artifacts of nature; and the real deal, consisting of mother nature's finest handiwork.

Let's start with what we'll call the "Wild By Nature" look, consisting of all of those castles, deep sea divers, skulls, volcanoes, sunken ships, treasure chests, ceramic mermaids and of course that "Sushi Bar" sign. All of these are fun, but not necessarily frivolous. For example, the so-called action ornaments that are operated by an air pump can help increase the oxygen level in the water, assist in water circulation and help stimulate gas exchange at the aquarium surface. Larger ornaments in general (especially those that are hollow and have entry and exit portals for the fish) can serve as hiding places and as territorial shelters for your fish, both of which are extremely important to a well-balanced aquatic community and the well-being of your fish.

The next category is what we will refer to as "Art Imitating Life." This group consists of man-made products that mimic nature, offering the appearance of reality. In this

group we include artificial driftwood, rocks, coral, plants and caves. These



The "Wild By Nature" look.

products offer similar benefits to your fish – shelter, safety and territorial establishment.

For the aquarist desiring a completely natural-looking aquascape and the ability to assemble rock formations, caves and woodwork to exact specifications without the caveats of Mother Nature's creations, this is the way to go. Advantages of going man-made include easier cleaning, less chance of altering water chemistry, and being more environmentally responsible by leaving Mother Nature in, well, Mother Nature.

Our third grouping is what we will term “The Real Thing.” It’s sticks and stones, driftwood, rocks, slate, seashells, snail shells, pebbles, coral skeletons and even some exotic



Natural aquariums are beautiful and full of life.

wood formations. All of these items offer the ultimate in realism and natural beauty. It’s always best to buy items that have been processed and prepared for aquarium use and purchased through your aquatics retailer. Items not intended for aquarium use may contain sealants, dyes or coatings that may leech harmful substances into aquarium water. Any natural items that you buy for the aquarium, especially driftwood, should be thoroughly rinsed and stripped of any dirt or debris that may add contaminants to the aquarium.

On the plus side, attempting to replicate a certain aquatic environment by decorating with natural objects that are indigenous to that environment will help maintain water

conditions that are friendly to the fish species that are accustomed to that environment. For example, adding natural driftwood to a South American river aquarium filled with fish from that particular region can help keep the pH at the right level for those fish. The same can be said about calcified rocks and even coral skeletons added to the décor of an African cichlid aquarium.

Keeping a natural aquarium requires a more thorough cleaning process, especially for driftwood with its porous composition; and the likely need to perform more frequent water checks and water changes, due to the impact of natural substances on water chemistry.



IV. Got Water?

Quick Tips: Adding Water

- Being careful not to disrupt the substrate and placed decor, fill the aquarium with water.
- Add necessary water conditioners to dechlorinate or treat the water.
- Test the water's pH. Adjust as needed.

On first glance fish seem to be quiet and easygoing creatures, but actually they're quite particular about their environment. That's why water quality must be the first priority. Water is their world; it is the air they breathe (actually, the oxygen that they extract).

The water you deposit into your aquarium will likely be from your home, and in most cases, that's okay. Tap water can contain a smorgasbord of chemicals, minerals, metals, and microorganisms. Your tap water can range from very soft to very hard, from low to high pH. If you're curious, check with your local water authority - they can easily provide you with an analysis of your tap water. If you have well water, your local aquatics retailer can likely perform these simple tests for you.

Thanks to water conditioning products, your tap water can be quickly rendered quite safe for your

aquatic companions. Your aquatics retailer has both the products and the knowledge to help you make that happen. Let's consider one of the most common problems with tap water and how to resolve it:



Chlorine – great for your swimming pool, bad for your fish – Chlorine is a disinfectant that is used by the water authority to help make tap water safe for drinking, cleaning and cooking use. Chlorine is, however, toxic to fish. There are

many commercially available dechlorinators that can make tap water safe for fish.

Chloramine is a combination of chlorine and ammonia, which is more stable and longer-lasting in

the local water supply, hence its attractiveness as a disinfectant with more staying power. Chloramine represents a substantially greater danger to aquarium fish than chlorine alone. However, this problem is easily solved by utilizing the right water conditioning product. Aqueon Water Conditioner is formulated to handle both chlorine and chloramine while also promoting a fish's natural slime coating.

Getting your PhD in pH

Simply put, pH is the measure of water's acidity or alkalinity. The lower the number, the more acidic the water. Soft water tends to be more acidic, hard water more alkaline.

Some types of aquariums require a higher pH level, while others, especially those containing live plants, do better with water that is softer and more acidic (low pH).

But in most cases, it's better for aquarium water to be slightly more acidic than alkaline. The main reason is that ammonia becomes exponentially more toxic as the alkalinity level rises. Where does this ammonia come from? Mostly from fish waste, respiration and from decaying food and other organic matter in the aquarium. While the aquarium's filtration system, when working properly, will convert this ammonia into an inert substance, too much ammonia can overwhelm

the filtration system or cause it to overgrow denitrifying bacteria, leading to a bacteria bloom in the aquarium (cloudy water, oxygen-starved fish). In an aquarium with a high pH (alkaline), any ammonia present will have far more damaging effects on the fish.



A simple test kit will tell you when it's time for a water change.

The pH level in an aquarium tends to lower naturally over time, and is best maintained at a safe level by frequent water changes. Your aquarium décor can affect pH levels. Natural wood and plants can have a lowering effect on pH, while coral skeletons, some stones and substrates like aragonite or crushed coral will raise pH or help keep existing pH levels high.

One of the most important tools that you will need is a pH test kit, which your aquatics retailer can help you select. They are easy to use, accu-

rate and generally inexpensive. The pH test kit is an especially useful indicator of when it's the right time for a water change.

Fill 'er up!

There comes a very exciting moment when setting up that new aquarium, the time to finally "just add water". The best way to go about this is to follow these steps in order:

1. Confirm that the aquarium is located exactly where it is to be anchored. Do not, under any circumstances, try to fill an aquarium with water, gravel or decorations and then move it.
2. After thoroughly rinsing out dirt, dust and debris from your substrate (usually gravel), add it to the aquarium and smooth it out. At this point, do not add decorative items, heating, aeration or filtration equipment—just gravel.
3. Figure out how you're going to get the water into the aquarium, whether it's with a hose or a good old-fashioned bucket.
4. When you're ready, place a plate or a saucer in the center of the aquarium, and let the water enter the aquarium by gently dispersing off of the plate or saucer. This will keep disruption of the gravel to a minimum, lessening the possibility of dust clouds, spillage and "splashage."

5. When the water level reaches 2-3 inches above the gravel, stop adding water. Now is the time to add your decorative items, heater, aeration equipment and filtration. Do not plug in any of the electrical items.

6. When all of the interior work has been done, resume filling the aquarium most of the rest of the way, again taking care to do so slowly and evenly, so as not to disrupt your decorative handiwork. Do not fill all the way to the top. Leave about an inch of clear glass at the top. You will top it off after fish have been added.

7. When everything has been safely and precisely located in the aquarium, and all tubes, hosework and wires are properly connected, move on to chapters 5-7 to learn how to setup the Aqueon Power Filter, the Aqueon Submersible Heater and lighting.

Your aquarium is now almost set-up, but not yet ready for fish. Sorry—we know how frustrating that can be. Once the filter, heater and lights are running, it is best to allow your aquarium to sit for a couple of days. This lag time gives the filter the chance to clear up any remaining sediment from the setup process, and allows the submersible heater to stabilize the water temperature.

V. The Magic of Filtration

Quick Tips: Filtration

- Position your Aqueon power filter on the back of the aquarium.
- Install the filter cartridge in the filter.
- After the aquarium has been filled with water, plug in the filter to start it.

If there were any one reason why aquarium keeping has become so easy for everyone to enjoy, it would have to be the marvelous advances in filtration technology. In size, ease of use and maintenance, affordability, efficiency, longevity, quiet operation and reliability, the Aqueon Power Filter represents the state of the art.

Your Aqueon Power Filter is designed to clean and purify your aquarium water in every way possible: mechanically (by trapping and removing particulate matter such as food and plant matter); biologically (by supporting a colony of “good” bacteria that process ammonia and other waste by-products); chemically (activated carbon filters

out harmful gasses and chemicals); and via a wet/dry filter that not only cleans biologically but also significantly improves oxygen levels in the aquarium.



Your power filter will do a splendid job of keeping the aquarium water healthy for fish and crystal clear for viewing, provided that you follow some simple rules: don't put too many fish

in the aquarium; don't overfeed; remove uneaten food, excess algae and decaying organics; test the water weekly for pH and ammonia; change the filter cartridge on a monthly basis; and most of all, maintain a consistent schedule of partial water changes.

Good water quality goes together with water clarity like peas and carrots. Cloudy water is almost always a sign of compromised water quality. Clear water almost always means that the water is fine, but crystal clarity is not an absolute guarantee of optimal water quality. So keep up that water testing program and routine maintenance with partial water changes.

Keeping your aquarium water

healthy for aquatic life includes making sure that there is plenty of dissolved oxygen for your fish to extract from the water. This is especially true in aquariums filled with live plants and those that may become a little overheated in the summer. Both situations can lead to dangerously reduced dissolved oxygen levels, especially if the bio-load (fancy term for fish & plant occupancy level) is excessive.

Your Aqueon Power Filter helps increase dissolved oxygen levels day and night by pumping more oxygen into water filtered through the wet/dry stage, and by the filtered water's exposure to air as it cascades out of the filter on its way back into the aquarium.

Gas exchange is another benefit offered by the Aqueon Power Filter. It's at the surface of the aquarium water that carbon dioxide escapes the aquarium, while oxygen enters. The exchange rate is enhanced by surface agitation, roiling up

the water and generating subtle currents that move these gases into and out of the aquarium with increased efficiency. The stirring of the water's surface by the water return portion of the filter helps move this process along.



Stage 1 Mechanical Filtration
Dual-sided replaceable dense-floss cartridges filter out particles and debris.

Stage 2 Chemical Filtration
Cartridges contain activated carbon to remove toxic impurities, odors and discoloration.

Stage 3 Biological Filtration
Bio-holster collects beneficial bacteria to eliminate more toxic ammonia and nitrites.

Stage 4 Stationary Wet/Dry Filtration
Water-polishing grid further filters and oxygenates the water, creating non-stop biological filtration.

VI. Aquariums Should Be Warm, But Not Fuzzy

Quick Tips: Temperature

- Position your Aqueon heater on the back wall of the aquarium (if included).
- Use suction cups to secure the heater on the aquarium wall near good water circulation.
- The heater can be fully submersed in the water.

The time-honored temperature standard for the community tropical aquarium is 76° Fahrenheit. Your job is to see to it that the water temperature stays close to this temperature. Any temperature variation must occur gradually, and extreme cold or hot temperatures should not be tolerated for long time periods. Temperature control is again part of the reason why aquariums should not be placed under skylights, next to windows or in drafty rooms.

Every tropical aquarium should have a submersible heater installed to help keep the aquarium water at that agreeable 76° temperature. The Aqueon Submersible Heater is designed as a “set it and forget it” heater that will provide precise aquarium temperature control for many years.

Installing an Aqueon Submersible Heater: The right time to place the submersible heater in the aquarium



is just after the first few inches of water have been added to the aquarium, and before you've added decorative objects and plants. Place the heater about two inches above the gravel bed, affixing the suction cups to the back wall of the aquarium.

The heater can be positioned with any orientation, but should be placed where there is good water flow to ensure even circulation of warmth. After positioning and attaching the heater, you can then arrange decorations in front of the heater to hide it from obvious view. However, it's a good idea to leave a small viewing area in front of the indicator lamp on the heater so that you can perform a quick spot check on its operation through the aquarium glass.

Set the temperature dial on the heater to the 76° mark and use a thermometer to monitor the temperature of the aquarium over time. At initial setup, check the thermometer for the temperature every 15 or 20 minutes and gradually adjust the temperature knob accordingly to achieve the desired aquarium temperature. Depending on the starting water temperature and the temperature of

the room, it may take several hours for the aquarium to stabilize at the desired temperature.

Aqueon heaters are made of shatter-resistant glass and feature rubber ends making them extremely durable. The only maintenance your heater should ever require is an occasional wipe-down and a scrub-down of the

suction cups. Finally, remember to never operate the heater unless it is properly submerged. Do not plug in the heater until the aquarium

has been filled and the heater

has been properly secured in place, fully submerged.



VII. Some Light On the Subject

Quick Tips: Lighting

- Place included hood and strip light on top of the aquarium, plug in and turn on.

The majority of aquariums are lit with fluorescent lighting, a much cooler and more energy-efficient source of light energy than incandescent lighting. Fluorescent lamps mounted in a protective and decorative hood will provide the best light, showing fish in their true and full colors while providing output in the spectrums that can support natural plant life.

For the physiological well being of your fish, keep roughly the same day-night cycle that is observed in your home. Keep the aquarium lights on during the day and turn them off in the evening. Light is also food for the growth of algae and

while some algae in the aquarium is a good thing, too much algae is unsightly, hard to clean and an oxygen thief at night. You can automate the day-night cycle with the use of a timer that you can get at most aquarium stores.

The average fluorescent tube light loses its most beneficial qualities after about one year of average use, so replace them from time to time, even if they still work.

If you are growing live plants in, or have a saltwater aquarium, you have some very special lighting needs that are beyond the scope of this book. Your aquatics retailer, though, will have all the answers.



There are many types of bulbs for different lighting requirements.

VIII. Getting Your Aquarium To Hit For the Cycle

Quick Tips: The Nitrogen Cycle

- Fish waste buildup will make water unsuitable for fish, so test the water regularly.
- Your Aqueon filter, frequent water changes and some simple routine maintenance will keep fish happy and healthy.

One of the many wonders of aquarium keeping is the almost magical way in which filtration and nature work together to keep aquarium water pure, safe and life-sustaining.

This is called the nitrogen cycle - a multi-step process in which toxic waste substances in the aquarium are biologically converted into far less harmful substances.

In the aquarium, there are two types of bacteria that neutralize toxic substances in aquarium water, and your Aqueon Power Filter is designed to encourage the growth of both of these bacteria.

Before adding fish to the aquarium, let's describe how the nitrogen cycle works utilizing these de-nitrifying bacteria:

1. The most toxic naturally-occurring substance in the aquarium is ammonia. It is a by-product of fish waste, fish respiration and

the decay of uneaten food and other organic matter. Ammonia is a guaranteed fish killer and worthy of a zero-tolerance policy. Fortunately, there are bacteria (named nitrosomonas) that thrive by processing (oxidizing) ammonia. These bacteria (not harmful to humans) are actually carried on the fish, so by including fish in your aquarium you are helping to seed the biological filtration portions of your power filter.

Your retailer can recommend hardier fish that can tough out the break-in period as the aquarium initially cycles. As more ammonia is generated in the new aquarium, the bacteria have more food for growth and soon outgrow the output of ammonia to the point that when the filter and aquarium have matured, ammonia is processed almost immediately.

2. These de-nitrifying bacteria do generate their own "waste product" when processing ammonia.



It is important to do frequent partial water changes to support the nitrogen cycle.

This secondary nitrogen-based toxin is called nitrite. And while far less harmful to fish in the short run, it is still a fish-killer when allowed to linger and accumulate.

That's where the second of the one-two bacterial punch comes in. Another de-nitrifying bacterium (named nitrobacter) processes nitrite, and these bacteria also take root in the biological filtration system over time. The by-product of the bacterial processing (reduction) of nitrite is another nitrogenous substance, nitrate.

3. So far, our good bacteria have broken down ammonia into nitrite

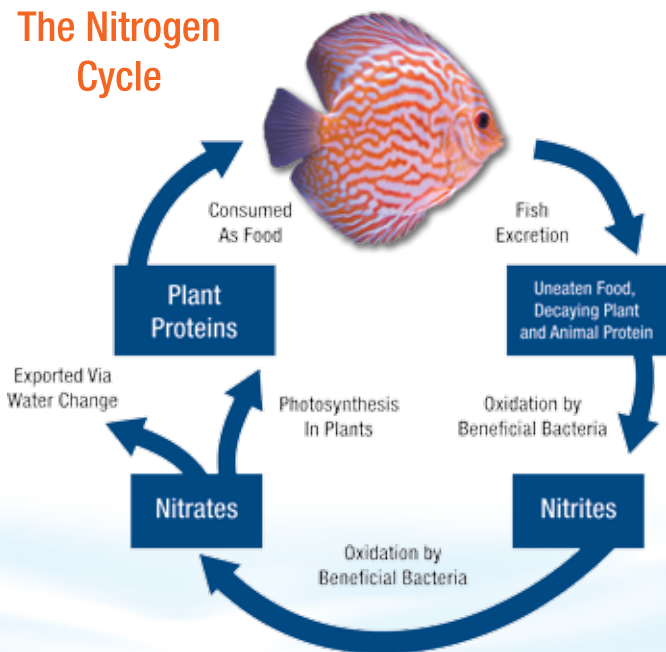
and nitrite into nitrate. That completes the nitrogen cycle. But what about the nitrate? Nitrate is only harmful to fish when it accumulates in large amounts. However, there are usually no bacteria present that will process nitrates.

There are ideally two ways to deal with nitrate. Live plants and algae will use nitrates as a fertilizer. Of course, where algae are concerned, that's both a solution and a problem. Too much nitrate will soon lead to too much algae. The best way to keep nitrate at minimum levels is via the regular water change. That will physically remove the nitrate-laden water.

On average, the nitrogen (or break-in) cycle should take about a month to reach full maturity. During that month, the water in the aquarium may become cloudy, and fish may struggle to thrive. Throughout the cycling process it is necessary to test the aquarium water daily for pH, ammonia, nitrite and nitrate levels and use frequent (sometimes daily), small (10%) water changes to manage water parameters. You will notice as the days go by that as the ammonia level falls, the nitrite level

will rise, and then as the nitrite level falls the nitrate level will rise. When your tests indicate no ammonia and nitrite, the cycle is complete. Aside from regular testing and frequent water changes, your other best practice when cycling the aquarium is to keep the fish stocking level low, and to avoid overfeeding. Even after the aquarium has stabilized, increase the fish population slowly and gradually and only up to the numbers that are suitable for your aquarium size.

The Nitrogen Cycle



IX. Let's Go Fishing!

Quick Tips: Adding Fish

- Decide what fish you'd like in your aquarium. It's best to start with hardier species.
- Acclimate your fish before releasing them.
- Add fish gradually over the course of a few months to get to the desired amount. Do not add all at once.

Let's look at facts about fish that should factor into your fish adoption process:

1. ***Size and amount of fish***—There have always been “rules of thumb” for figuring out how much fish can comfortably inhabit a given aquarium size. Recommendations are often expressed either in number of fish or total number of “inches of fish” per gallon of aquarium water. For the freshwater aquarium, a safe number might be one fish or one inch of fish per gallon of water. But the mature size of each fish also needs to be considered. Fishes that stay small, like tetras can often be kept ten or more in a 10 gallon aquarium, but one (or ten) ten inch fish in a ten gallon aquarium would not be suitable. Obviously, they are called “rules of thumb” for a reason.

There are many other factors that impact suitable bio-load for an aquarium. Learning about the needs of a specific fish before purchasing

is always the best course of action. Often, your aquatics retailer can provide the necessary information.

Other factors that may impact fish selection include swimming habits and compatibility. There are larger fish that move slowly and hover in the middle of the aquarium, like the angelfish. While fish like danios are frenetic finners and darters that tend to stay near the waters surface. And catfish spend the bulk of their time actively foraging along the bottom. Selecting fish that use different parts of the water column can limit any potential competition for niche and potentially increase the total number of fish possible. Aquarium capacity rules can usually be stretched somewhat if the intention is to keep only small tetras and catfish, and other fish that generally are peaceful, community fish. Many of these fish do best when kept in schools, anyway.

2. *Habitat, sweet habitat* – yes, your fish come from your aquatics retailer. But beyond that, what part of the world did they previously call home? Rocky, alkaline African lakes, or murky, driftwood tannin-tinged Amazon River estuaries? Did they inhabit overheated Thai rivers, cold, fast-flowing water in China or quiet, calm lakes? Even if they were raised on the fish farm, they were most likely weaned in waters conditioned to simulate their natural homes.

The question is, how far do you need to go to also simulate their natural homes? If you're keeping a

tropical community aquarium with representatives from every continent of the world, it will not be possible to replicate water conditions that will meet every fishes' exact requirements. That's why a community aquarium owner should shoot for a happy medium, establishing conditions that will not be too extreme for any species.

Fortunately, fish are very adaptable to a new set of living conditions as long as they have the time to adjust and that the adjustment is not too far off their genetic preferences.



A good mix of top-swimmers, mid-water dwellers and bottom-feeders will help create beauty and harmony in your aquarium.

Although fish that have to adapt to non-native conditions may not exhibit the same behavior modes that they would in nature, they shouldn't experience a decline in health.

You should always ask your aquatics retailer for advice before bringing home a new fish. The retailer will let you know if your aquarium is right for the fish, and what special requirements may need to be considered.

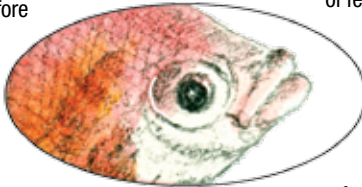
3. Compatibility – *making sure everyone gets along swimmingly* – Keeping an aquarium in which most of the fish co-habitate well is not only best for the fish, but also much more relaxing and enjoyable for aquarium viewers. One of the best ways to ensure compatibility is to aim for the three-level aquarium, which consists of equal amounts of top-swimming, mid-water and bottom-dwelling fish. Top swimmers will have an upturned

mouth, like the fancy guppy, mid-water fish have mouths that face forward, like Angelfish, while bottom-dwellers have mouths that face south, like catfish. You should have

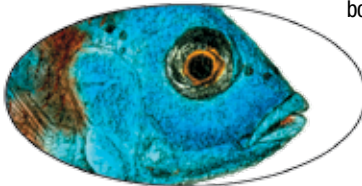
fish food that is formulated for each level of feeder: floating food for the top-feeders, slowly sinking food for the mid-feeders, and pelleted, heavier, sinking food for the bottom dwellers (although most fish will gladly accept any food that finds its way to their part of the water column).

When you have balanced out your fish collection to represent all three layers of swimmers, the visual effect is quite striking, and there is order and peace in the aquarium since each type has their own level.

Mouth Orientation



Top-Swimmer (gourami)



Mid-Water Dweller (cichlid)



Bottom-Feeder (catfish)

Another way to enhance compatibility is to have plenty of hiding places in the aquarium with decorative objects placed in a way that fish can establish territories or safe zones. Fish that have nowhere to retreat are highly stressed and eventually unhealthy fish. The size and shape of the aquarium is also a factor in compatibility. It should have lateral room for the active, fast swimmers and depth top to bottom for the fish that move up and down.

When adding a new aquatic dweller, ask your aquatics specialist about nutritional requirements, temperament and aggressiveness. Overcrowding and poor water conditions will also work against compatibility.

4. *The Low Maintenance Fish*

—If you are a beginner, choose fish that are hardy, who are not finicky feeders, that can tough out less than ideal water conditions. These fish also happen to be some of the most attractive and cordial fish for the community aquarium —some tetras, swordtails, loaches, some small barbs, mollies, platies, guppies, plecos and cory catfishes.

Buy a good, name-brand quality flake food, and replace it when it no longer looks or smells fresh. Supplement the flake food with

floating and sinking food (palletized and/or tablet) for the top and bottom feeders. You can, but do not have to feed your fish every day. A feeding schedule of three-to-four times per week will usually do.

Feed your fish in very small increments per session, with 2-3 feeding sessions each feeding day. Smaller, more frequent meals work better for them. Watch each feeding session to its completion and observe if every fish is getting a fair shot at the food. Feeding your fish a varied diet allows for a happier fish with full fin and color display. Do not however use “people” food or unprocessed foods.



A variety of foods will keep your fish active, colorful and healthy.

X. Keep On Fishkeepin' On!

Quick Tips: Adding Fish

- Perform regular partial water changes.
- Replace the filter cartridge monthly.
- test your water regularly.

Once your aquarium is established there really isn't much maintenance involved on a daily basis.

Every day, do a quick fish head count, remove any fish that have moved on, check the water temperature and level and make sure the filtration system is operating smoothly without obstruction. And feed them, of course.

Once a week, clean the exterior glass surfaces and the glass cover that sits under the lighting hood. To avoid getting soap or chemicals in the aquarium water, spray cleaners directly on cloth, not the aquarium. To remove algae film, wipe down the inside glass using an aquarium scraper, magnetic cleaner or simply a clean soft sponge free from any chemicals or dyes. Check the aquarium's water level and replace any evaporation by topping with dechlorinated water.

Every other week, test the water. Ammonia, pH, nitrite and nitrate, hardness too, if you are growing live plants or hosting sensitive or

special-needs fish.

Once a month, check for areas where water may be splashing out and check the electrical connections for signs of water exposure and make sure that all electrical cords still utilize the drip loop safety method.

Check all filter media for cleanliness and obstruction. Replace filter cartridges. Rinse all biological medias in water from the aquarium only - do not rinse in tap water. Swap out about 20% of the water volume for fresh, de-chlorinated water. This will keep pollutants at bay without drastically altering the good aspects of your aquarium's water chemistry. Try to match the water temperature of the incoming and outgoing water as best as you can.

The water change should be done in conjunction with a good gravel vacuuming. The Aqueon Water Changer is ideal for this purpose. Vacuuming the gravel bed free of debris will help keep the aquarium trouble-free for years to come.

Enjoy Your New Aquatic World!

The world of aquarium fish keeping is actually an entire universe of expanded knowledge about math, biology, nature, science and sociology, and a valuable source of personal growth and wisdom about the secrets of life itself. It is an educational opportunity for all age groups. There is a limitless supply of information about aquarium keeping

on the Internet, and your aquatics retailer can introduce you to books and videos about fish keeping. You can even consider joining a local hobbyist group, of which there are many. No matter how far you take your participation in this wondrous hobby, you will always come away with the feeling that your life has been enhanced and enriched.



If you have any additional questions, or would like to learn more about specific fish species, habitats, plantlife, etc., see your local aquatics retailer.

The Possibilities Are Endless...

Aquariums come in many different sizes and styles. A bow front aquarium gives the viewer a unique perspective into the aquatic environment. Saltwater setups, like the one shown here, can take years to fully develop, but the rewards are well worth the time and effort you put into it. There is life in every nook and cranny of the aquarium - from the colorful live rock to the fascinating and sometimes bizarre fleshy corals.



A 90 gallon or greater freshwater aquarium containing African cichlids can liven up a room by adding beautiful matching aquarium furniture and lots of movement from these colorful, active fish. Sizable rocks and native broad-leaved plants can be used to flush out the background.

Aquarium **Water Changer**



The Aqueon Aquarium Water Changer was developed to make routine water changes and vacuuming gravel easy and efficient for any level aquarist.

Available in 25 and 50 foot hose lengths.

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The clean and simple lines of the Elements Collection from Aqueon brings an easy, mix-able sophistication to fit your lifestyle.



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