

pH—A Guide



What is pH?

The pH of water is a measure of whether the water is acid or alkaline. pH is measured on a scale between 0 and 14. A simple pH test can reveal if the water is acidic (less than 7), neutral (7.0) or alkaline (above 7). In nature, the pH of water is the result of its surrounding ecosystem – for example rainforest streams are usually acidic, but waters in former volcanic areas are alkaline (eg Lake Malawi in Africa).

pH is important

The right pH for one fish might not be suitable for another species of fish. Therefore it is important to keep species together that prefer similar water chemistry. For a typical community tank of mixed fishes, a neutral pH is usually the best solution.

The effect of pH on fish

Many fish can adapt to a wide range of pH, but if the aquarium water is too acid or alkaline it can severely stress your fish or even kill them. Sudden large adjustments to pH can also harm fish. For example, fish living in a tank that has had a gradual pH change over some weeks might all seem fine, but newly added fish might die soon after being released. Fish suffering from pH shock can look diseased (frayed/clamped fins, slime on body, gasping, loss of appetite).

Another example of a pH-linked problem is when the aquarium water is very alkaline (such as for African Cichlids) but also has ammonia present: Ammonia becomes very toxic at high pH and this can quickly lead to fish deaths.

How often to test

It is important to test pH on all tanks at least weekly, and also immediately if you are concerned about the health of your fish.

Expert tip: Checking the pH in your tank is an important first step in diagnosing any fish problem.

How to test

Testing is easy. The most accurate method is to use an electronic pH meter, but meters do need recalibrating every

few weeks to keep them accurate. Another popular and easy way to test is using a liquid indicator test kit: simply add some pH indicator to a vial of water and compare to a colour chart. pH test strips are also simple to use, but are not as accurate as the other methods.

Recommended pH levels (Freshwater Fish)

	pH	Species
Acid	6.0	Wild Discus, Wild Bettas
	6.8	Neons, Captive Bred Discus, Most Dwarf South American Cichlids, Cardinals, Most South American Tetras, most Killifish and Hatchet Fish
Neutral	7.0	Many Common Community Fish, including: Angels, Corydoras Cats, Aust. & N.G. Rainbowfish, Central & Sth American Cichlids, Rasboras, Pencil Fish, Pictus Cats and Elephant Nose
	7.2	Goldfish, Clown Loach, Kuhlii Loach, Siamese Betta, most Sharks, Danios, most Gouramis and most Barbs
Alkaline	7.5	Most Livebearers, Celebes Rainbow, Half Beaks, Bumble Bee Goby
	7.8	Scats, Archer Fish and Monos
	8.0	African (Rift Lake) Cichlids

pH—A Guide

Factors affecting pH

Water with a **low carbonate hardness (KH)** has a lower buffering capacity, meaning it's pH is more likely to vary from week to week. For example, Melbourne's very soft tap water has low carbonate hardness and therefore has a low buffering capacity. Aquarium water with low KH tends to gradually become acidic over time as fish waste and other organic matter builds up.

By comparison, some parts of Australia have **high amounts of dissolved minerals** in their local tapwater. Such water is very hard and tends to stay alkaline. It can be difficult to reduce the pH in these conditions for any length of time.

Even acidic or neutral water can become too alkaline if the **wrong material** is added to the aquarium. The following items all cause pH to rise and should not be put in a freshwater tank if you want a neutral or low pH;

- coral/marine sand,
- shell grit,
- sandstone,
- coral,
- shells,
- marble, and
- cement. (Unsealed new cement ponds are deadly to goldfish as the new cement causes the pH to rocket to extremely alkaline.)

Having a lot of **Carbon Dioxide (CO₂)** in the water (eg overcrowded tanks) can cause the pH to drop. Ensure plenty of good aeration by filter or airstone to prevent this from occurring.

Adjusting pH

If you are having to regularly adjust the pH in your aquarium, it is best to analyse the problem, find the cause, and take a long-term approach to fixing it. Any large pH corrections must be performed slowly, to avoid pH shock to the fish.

The following methods can be used to help **decrease** pH:

- using pH acid powders (pH down) / pH regulators,
- adding driftwood,
- adding washed Peatmoss (place in a filter bag in the filter).

Importantly, check nothing in the tank is causing the pH to rise (eg shells, coral, sandstone rocks).

Decreasing pH can be difficult if your tapwater is naturally high in dissolved minerals, as this can quickly counter any attempts to reduce pH. In extreme cases, the addition of R/O water (Reverse Osmosis) or distilled water is recommended to soften the water to allow for adjusting pH.

Increasing pH is easier to do. Using substances with high levels of calcium will increase KH and therefore the buffering capacity; this will cause your pH to rise and become more stable.

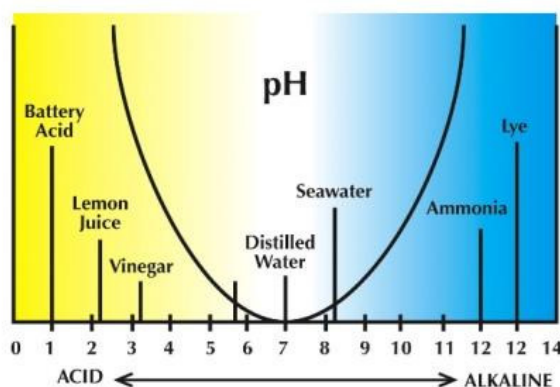
Any of the following can be used to **increase** pH:

- using pH alkaline powder (pH up) /pH regulators,
- adding a small amount of coral sand,
- shell grit or shells,
- regular water changes (use a gravel vac).

Recommended Reading

Just starting out? You can download more tips like this at aquariumindustries.com.au. We recommend the following, all kept on the "General Care" page:

- Setting up a Freshwater Aquarium
- General Hardness
- New Tank Syndrome
- Community Fish & Aquariums

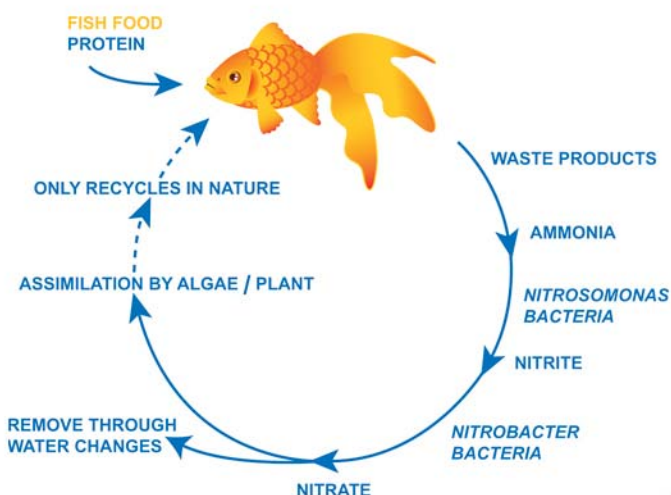


pH range

New Tank Syndrome

The Nitrogen Cycle

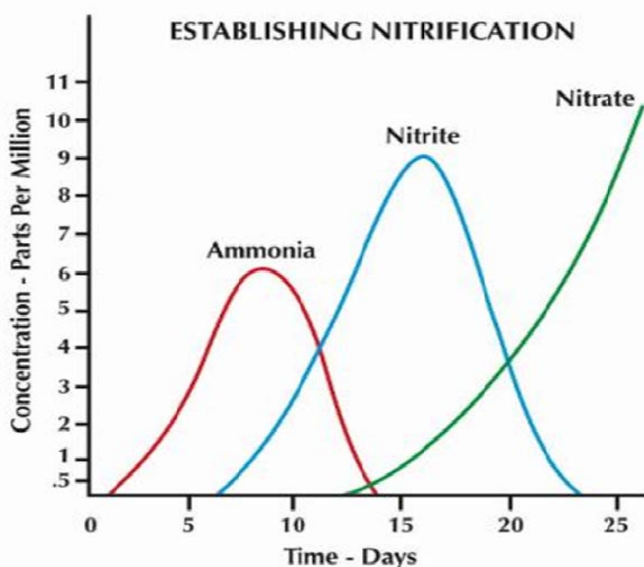
Ammonia is the main waste product from fish or uneaten food that will 'poison' fish. Ammonia will damage gills and is a 'neurotoxin' affecting the brain. Special bacteria called Nitrifying bacteria are able to manage this waste via a process called Nitrification or the Nitrogen Cycle. It is essential to establish this process in an aquarium to prevent ammonia building up to toxic levels.



In a newly established aquarium, it may take up to a month to establish this cycle and care must be taken during this time to prevent toxic levels of Ammonia and Nitrite building up.

Managing ammonia level to prevent deaths during this time can be achieved by doing a number of things:

- Add gravel, filter material or water from an established aquarium to introduce nitrifying bacteria or Add commercial products such as Cycle and other nitrifying bacteria products to help increase the population of bacteria.
- Live plants are capable of taking up ammonia directly and help stabilise the water quality.
- Stock just a few hardy fish to start with, generally around 10% of what the tank is capable of carrying. Gradually build up the numbers over 4 to 6 weeks.
- Feed minimal amounts of food, the more food added the more ammonia produced. Only feed every second day for first few weeks then increase feeding to normal levels.
- Test for ammonia and nitrite levels, if levels increase do water changes – smaller regular water changes will be better than large water changes.
- Keep pH slightly acid – this will 'detoxify' ammonia.



Don't Release Fish Into Our Environment

Aquarium fish keeping is very popular in Australia, with an estimated 60% of households having pet fish. It is expected that the number of people keeping fish in Australia will continue to grow; this is due to the fact that fish are a convenient pet for small houses and apartments and due to the increasing popularity of marine and nano aquaria. Additionally, it has recently been shown that keeping fish can lower your blood pressure and your heart rate!

As a responsible pet owner, it is important to remember that should you decide you no longer want your pet fish, to never release your unwanted live (or dead) fish into the environment - even if your pet fish is a species native to Australia.

Releasing aquarium fish into a local waterway* usually condemns them to a nasty death due to predators, or even starvation as the pet fish is not used to feeding for itself. Unfortunately in some cases such releases can even lead to the fish becoming established as an introduced pest.

Fish can enter our local environment by either unintentional or intentional releasing:-

Unintentional release is less common and is usually a result of the fish escaping from their pond during a flood or storm event.

Intentional release is more common and occurs when the fish is removed from their tank or pond and deliberately released into the environment. Reasons that people intentionally release their fish include the fish becoming too big for its tank, the owner is moving house, or simply the owner no longer wants to keep their pet fish. Additionally, some cultures believe that releasing fish into the environment is a way of 'making merit' as they are liberating life. There is also evidence that recreational anglers have used 'aquarium' fish as bait (then dumped their unused "live bait", and some fishers have intentionally released fish to stock their local dam, which in turn has escaped into adjoining waterways. Anyone stocking natural waterways including dams should first contact their local authority.

No matter the reason, please remember that aquarium fish (dead or alive) should never be released into the environment because:

*Local waterways include creeks, rivers, lakes, dams, ponds, the ocean or any other body of water.



All fish have specific water quality requirements (temperature, pH, water hardness etc) and the water that you release your fish into might not be ideal for your pre-loved fish. Therefore it is very likely that even though you think you are doing the right thing for your fish, you may actually be doing them harm.

Fish released into the environment can become established and out compete native fish species. These newly established fish are very difficult to eradicate without also removing native fish. Fish released may also introduce disease into the environment.

So if you no longer want your fish, try selling it or giving it away to family and friends who already have fish or contact your local fish shop as they may be willing to take it from you. If your fish is sick, we recommend firstly checking that the water quality parameters match the fishes requirements (refer www.aquariumindustries.com.au for further care information for your fish), or visit your local pet shop who can help you with your fish. If your fish dies, give it a nice burial in your backyard or dispose of it in the rubbish bin - never dump them into a waterway.

Community Fish and Aquariums— Your Guide



What is a Community Fish?

A “community fish” has the ability to coexist peacefully with a variety of other species, some of which do not necessarily share the same origins or geographic locations.

Aquariums that contain these fish are often referred to as “community tanks”. In this guide we will focus on what it takes to be a community fish and suggest some AI recommended layouts for you to try at home.

Plan Ahead!

Always research your fish. Knowing what kind of requirements your fish need will allow you to make decisions about suitable tank mates. When creating a community tank, your aim is to bring fish together that are compatible in temperament, water parameters and other factors such as feeding requirements.

Our website (aquariumindustries.com.au) contains hundreds of care sheets which detail the individual care requirements of many community fish, and makes a great place to start your research.

Expert Tip: *One of the factors often overlooked when choosing fish for a community aquarium is the level at which the fish prefer to swim. Choosing fish that prefer swimming at different levels will result in a far more attractive aquarium, while at the same time assuring that your fish will not have to compete for space, food or territory. This results in a happier community, and a more visually appealing tank.*

Suitable Fish

This section contains a small number of fish that will live happily in a mixed tropical community aquarium, are not usually too aggressive and do not have any unusual dietary or water quality requirements.

Tetras and Rasboras

Most species are small, peaceful and produce minimal waste, making them one of the most popular fish for community tanks. Given their size, the addition of large tank mates is best avoided. Tetras and Rasboras will tend to swim at a medium to high/surface level within the aquarium.

We recommend:

- Neon Tetra *Paracheirodon innesi*,
- Rummy nose Tetra *Hemigrammus bleheri*,
- Cardinal Tetra *Paracheirodon axelrodi*,
- Serpae Tetra *Hyphessobrycon eques*,
- Glolite Tetra *Hemigrammus erythrozonus*,
- Harlequin Rasbora *Trigonostigma heteromorpha*,
- Hengels Rasbora *Trigonostigma hengeli*,
- Emerald-eye Rasbora *Rasbora dorsiocellata*

Livebearers (Guppies, Mollies, Swordtails and Platies)

These fish are commonly available and very popular. Most are hardy, easy to breed and bring instant colour to any tank. Best suited to higher pH and GH community tanks. Most livebearers live and feed along the surface.

We recommend:

- Guppy *Poecilia reticulata*,
- Molly *Poecilia latipinna*,
- Platy *Xiphophorus maculatus*
- Swordtail *Xiphophorus helleri*

Community Fish — Your Guide

South American cichlids

There are a few species originating in South America that can be classed as community fish. Research on their temperament, required parameters and maximum size is advised, and you can find out more about individual species at aquariumindustries.com.au.

See below for a list of a few AI recommended community cichlids. South American cichlids will tend to swim along the bottom of aquariums, making them excellent for smaller tanks.

We recommend:

- Apistogramma sp,
- Red forest jewels *Hemichromis lifalili*,
- Severum *Heros severus*,
- Blue ramirezi *Mikrogeophagus ramirezi*,
- Bolivian butterfly *Mikrogeophagus altispinosa*,
- Pearl horseface *Geophagus brasiliensis*.

Marine Fish - Damsels

Damsel fish are the most common "starter" saltwater (marine) aquarium fish. They are considered good starters because they are inexpensive, and they adapt well to a variety of water conditions.

Although they make colourful additions to a saltwater community tank, it is always advised to keep them in schools of at least 5+ to limit the aggression that can occur as they develop.

We recommend:

- Blue/green chromis *Chromis viridis*,
- Blue line damsel *Chrysiptera caeruleolineata*,
- Damsel yellowtail blue *Chrysiptera parasema*,
- Blue devil damsel *Chrysiptera cyanea*,

More community fish

Barbs

These are an active and colourful addition to any community tank. Not all are peaceful, and some can grow quite large, so we suggest doing some research before purchasing.

The species listed below are ideal for the general community tanks. Note: best kept in schools to share any aggression.

We recommend:

- Cherry barb *Capoeta titteya*,
- Tiger barb *Capoeta tetrazona*,
- Rosy barb *Puntius Conchoniuis*.
- Odessa barb *Puntius ticto*.

Danios

These hardy fish and are active schoolers with no special requirements. Great for beginners.

We recommend:

- Zebra danio *Brachydanio rerio*,
- Leopard danio *Brachydanio frankei*,
- Pearl danio *Brachydanio albolineatus*.

Loaches

Loach species make an interesting addition to your community aquarium. These are best kept in groups.

We recommend:

- Clown loach *Chromobotia macracanthus*,
- Reticulate loach *Botia lohachata*,
- Kuhlii loach *Acanthopthalmus* sp.

Rainbow fish

Rainbow fish are strikingly colourful and are a great schooling fish. They are often overlooked as community fish, partly because the juveniles are normally not intensely coloured. Once grown they display their impressive adult colouration, which rivals that of most other fish.

We recommend:

- Neon rainbows *Melanotaenia praecox*,
- Boesemani rainbow *Melanotaenia boesemani*,
- Turquoise rainbow *Melanotaenia lacustris*,
- Red rainbow *Glossolepis incisus*,

Corydoras Catfish

Cory's are small, peaceful catfish, which are ideal for the community aquarium. The commonly available species are generally hardy and are very affordable.

We recommend:

- Bronze/Albino catfish *Corydoras aeneus*,
- Peppered catfish *Corydoras paleatus*,
- Panda Cory *Corydoras* sp. *Panda*,
- Sterbai Cory *Corydoras* sp. *Sterbai*.

Sucking Mouth Catfish

These species are great as part of your "clean-up crew", because they will eat algae, and any uneaten food particles, and are an excellent addition to any community tank.

We recommend:

- Bristle nose catfish *Ancistrus* sp.,
- Borneo sucker *Pseudogastromyzon myersi*,
- Sucking catfish *Gyrinocheilus aymonieri*,
- Pleco *Hypostomus plecostomus*.

Community Fish — Your Guide

Gouramis

Colourful, hardy fish which are full of personality, gouramis make excellent community tank mates.

We recommend:

- Blue/golden gourami *Trichogaster trichopterus*,
- Pearl gourami *Trichogaster leeri*,
- Dwarf gourami *Colisa lalia*.

African cichlids

These fish are often not thought of as community fish due to their aggressive nature, but many species can live quite happily together. Best kept with other African cichlids.

We recommend:

- Electric yellow *Labidochromis caeruleus*,
- Benga peacock *Aulonocara baenschi*,
- Blue peacock *Aulonocara stuartgranti*,
- Eureka red peacock *A.jacobfreibergi*,
- Lombardoi *Metriaclima Lombardoi*,
- Cobalt blue Zebra *Metriaclima callainos*

Plants for the community tank

Plant species that are best suited to community tanks are generally hardier and more adaptive to a broader range of parameters. This list is of some of the most common and robust aquatic plants.

We recommend:

- Java fern *Microsorium pteropus*,
- *Anubias nana*,
- Java moss *Taxiphyllum barbieri*,
- Most *Cryptocoryne* species, especially
 - *Cryptocoryne Lucens*
 - *Cryptocoryne Balansae*
- Pygmy Chain Sword
- Broad Leaf Chain Sword
- Baby Tears
- Green Pennywort
- Gold Pennywort
- Brown Wendtii

Expert tip: This is where tissue culture plants, such as those from the Naturals Range by Aquarium Industries have the edge on traditionally grown plants. Many Tissue Culture plants will adapt quickly, and there is no risk of introducing anything nasty into the aquarium such as snails, disease and algae!

Suggested Tank Composition

While the possibilities for community tanks are endless, we know that it can be hard when you are first setting out. To help you, we have created a few examples of attractive community tanks, that might provide some ideas.

Remember to do your research before starting, and ask your local store for advice. Before starting out, we also recommend that you read the following care sheets, found on our website:

1. Setting up a freshwater aquarium
2. New tank syndrome
3. Adding fish to the home aquarium

The recommendations below contain the number of fish you can hold in a fully cycled tank, and assume that your water parameters fall within our recommended guidelines.

50 litre tanks

The Tetra Tank: 50 litres

Tetras are great beginner community fish and schools of these fish are great at creating colour in the tank. Suited to neutral pH and soft water they are best when kept with species that show little to no aggression.

GloLite, Rummy nose and Neon tetras swim at mid to high levels of the tank, generally swimming in tight groups and flashing beautiful iridescent colours. These character filled species are very inquisitive and will often join the other fish up the top of the tank during feeding time. Add some corydoras to scavenge along the bottom of the tank, and complete the bottom level.

Suggested Fish and Quantities for a 50 litre tank:

- | | |
|--------------------|----|
| • Corydoras sp. | 5 |
| • Neon tetra | 10 |
| • Glolite tetra | 5 |
| • Rummy nose tetra | 5 |

Community Fish — Your Guide

50 litre tanks (continued)

Soft water dwarf cichlid Tank: 50 litre

This is a great community tank for those wanting something a little different from the common tetra filled tank.

Apistogramma Cacatuoides are a beautiful fiery coloured dwarf cichlid with streaks of red, yellow and orange, which add a striking addition to any tank. They tend to swim between mid to bottom levels of the tank and are a great feature fish.

The harlequin rasbora is a little different, with a darker colour to the back half of its body. This fish schools nicely at a mid to high level of the tank.

Corydoras will fossick along the bottom of the tank.

All of these fish are great in a neutral pH and soft water tank.

Suggested Fish and Quantities for a 50 litre tank:

- Apistogramma Cacatuoides pair 2
- Harlequin rasbora 10
- Corydoras sp. 3

The Livebearer Tank: 50 litre

Livebearers are a brilliant choice for a community tank. There are many different colour options available and they are reasonably priced.

Adding guppies and balloon mollies will create an active environment that is very pleasing to the eye. Placing a few corydoras in as well will ensure the tank won't get too dirty.

Suggested Fish and Quantities for a 50 litre tank:

- Balloon mollies 5
- Guppies 10
- Corydoras 5

200 litre tanks

The Gourami Tank: 200 litre

The Gourami Tank is a nice setup if you are a beginner or an advanced aquarist. The feature fish of the aquarium will be the gouramis, so any fish added will be used to merely enhance the gouramis which are present.

The Pearl Gourami is a fish with plenty of personality and a pair of Dwarf Gouramis will complement this. Adding a few clown loach and barbs will create activity in the lower and mid-range of the aquarium, while a Bristlenose catfish will help you keep algae under control.

Suggested Fish and Quantities for a 200 litre tank:

- Pearl gourami 5
- Dwarf Gouramis 2
- Tiger barbs 20
- Bristlenose catfish 2
- Clown Loaches 4

The Malawi Cichlid Community Tank: 200 litre

This aquarium will be full of colour. A 200 litre tank provides room for quite a lot of medium-sized cichlids.

Keeping the aquarium well-stocked will actually reduce aggression, and it is best to purchase a number of fish at once instead of ones and twos to further limit aggression.

There are several suitable species commonly available and we have chosen a few to add to this aquarium. Select Blue, Benga and Eureka Red Peacocks (Note: selecting only males can help limit the need for territory) then a few cobalt blue zebras and electric yellows. To finish, add 2 - 4 Cuckoo catfish. The aquarium should be aquascaped using lots of rocks and hiding places.

Suggested Fish and Quantities for a 200 litre tank:

- Peacock Cichlids Blue 3
- Benga 3
- Eureka Red 3
- Cobalt blues 5
- Electric yellows 5
- Cuckoo catfish 2—4

Community Fish — Your Guide

200 litre tanks (continued)

The River Community Tank: 200 litre

Setting up community tank with a theme is often a great place to start, as it will help you decide on the species you should look at. A river setting will be our focus when selecting these species.

With some rocks/pebbles and wood, the *Geophagus brasiliensis* or the pearl cichlid is right at home. We add a severum and some Congo tetras to school higher up in the water column, and then a few reticulated loaches to create an active and interesting aquarium.

Suggested Fish and Quantities for a 200 litre tank:

• Pearl cichlid	5
• Congo tetra	15
• Reticulate loach	4
• Green severum	1

Find out more!

Free Fish care training courses available on our website: aquariumindustries.com.au



THE SCHOOL
at AQUARIUM INDUSTRIES

Your Community Tank Shopping List

50L Tetra community tank

- 10 x Neon tetra
- 5 x Glolite tetra
- 5 x Rummy nose
- 5 x Corydoras sp
- 1 pack AI Naturals Range Crypt Balansae
- 1 pack AI Naturals Range Parva
- 1 pack AI Naturals Range Broad Leaf Chain Sword

50L Dwarf cichlid community tank

- 2 x Apistogramma Cacatuoides pair
- 10 x Harlequin rasbora
- 5 x Corydoras sp
- 1 pack AI Naturals Range Amazon Broad Leaf Sword
- 1 pack AI Naturals Range Cryptocoryne Walkeri
- 1 pack AI Naturals Range Cryptocoryne Lutea

50L Livebearer community tank

- 5 x Balloon mollies
- 10 x Guppies
- 5 x Corydoras sp.
- 1 pack AI Naturals Range Baby Tears
- 1 pack AI Naturals Range Green Pennywort
- 1 pack AI Naturals Range Bacopa
- 1 pack AI Naturals Range Pygmy Chain Sword

200L Gourami community tank

- 5 x Pearl Gourami
- 2 x Dwarf Gouramis
- 20 x Tiger Barbs
- 2 x Bristlenose Catfish
- 4 x Clown Loach
- 1 pack AI Naturals Range Red Undulata
- 2 packs AI Naturals Range Pygmy Chain Sword
- 2 packs AI Naturals Range Bacopa

200L Malawi community tank

- 3 x Blue Peacock Cichlids
- 3 x Benga Peacock Cichlids
- 3 x Eureka red Peacock Cichlids
- 5 x cobalt blues
- 5 x electric yellows
- 2-4 cuckoo catfish

200L River community tank

- 5 x Pearl cichlid
- 15 x Congo tetras
- 4 x reticulate loaches
- 1 x Green severum

How to set up a Child's First Tank

Live fish make a great first pet!

They are easy to care for, quiet, and fun to watch.

They don't have to be a lot of work for Mum and Dad either. Follow these 6 simple steps, and the entire family will get hours of pleasure from your new pets.

6 Steps to Success

1. Choose the right fish
2. Select your equipment
3. Cycle your tank
4. Unpack and release your fish
5. Easy weekly and monthly maintenance
6. Daily tasks

1. Choose the right fish

There are a wide range of hardy freshwater fish that are easy to look after.

If you have decided on a cold water tank, then Goldfish are ideal. Fish such as Comets, Fantails and Shubunkins are all suited to these tanks, and very easy to care for.

Tropical species such as Danios, Barbs, Mollies, Guppies and Platys also make good first fish. These fish require warm water all year around, so you will need to purchase a heater when you select your equipment.

To help you choose the right fish, visit the Aquarium Industries website (aquariumindustries.com.au) and download the free Care Sheets available there.

Also decide on the right location for your tank before you start. Keep your fish tank out of draughts, and away from direct sunlight.

2. Select your equipment

The choice of equipment depends on the type of fish that you have chosen. Your retailer can help you with your selection. A good reference point is that you will require:

- Tank
- Tank stand if required
- Gravel, and a Gravel Vacuum
- Air pump
- Filter (if not built in to your tank)
- Heater (if you have chosen tropical fish)



- Lights if required
- Thermometer
- Food
- Water conditioner
- Good water test kits (pH, Ammonia, GH, Nitrites and Nitrates)
- A net
- You may also want some plants—and your child will have fun selecting some ornaments too

3. Cycle your tank

Once you have assembled your tank, and filled it with water, you will need to exercise some patience! New tanks need to run for a while before you can start to add some fish. This allows “good” bacteria to get started in your tank, making a healthy environment for the fish when they are introduced.

Operating a filled tank with no fish in it is called “cycling” your tank. Ideally, you will need to cycle your tank for at least 1 week before adding any fish. After the first week, take a sample of your water back to your pet retailer, and have them test it for you. If conditions are right, you can start to add fish! Your retailer can give you the best advice about how many to add, depending on the size of your tank.

Add a small number of fish to your tank at first, and only feed them every second day for a while. Add more fish slowly over the next 4—5 weeks. (Your pet store can provide you with information about how many fish can fit into your tank.)

Aquarium Industries has a great Care Sheet which talks about setting up and cycling your tanks in more detail. It is called “Setting up a Freshwater Aquarium” and can be found on our website.

How to set up a Child's First Tank



4. Unpacking and releasing your fish

- Before you bring your fish home, do one final test of the water to ensure that it is suitable for your new pets.
- Bring your fish straight home from the pet store. Don't leave them in the car for long, especially on a hot day.
- Once home, assemble your net and a bucket, before opening the fish bag. While you are assembling your equipment, float the unopened bag for 2—5 minutes (not longer) in your tank to equalize the temperatures.
- Cut the bag open, and pour the contents of the bag through the net into the bucket. Do not put the water from the bag into your tank!
- Carefully release the fish from the net into your tank, and discard the waste water appropriately.

5. Easy weekly and monthly maintenance

You can care for your fish in just a few minutes every week, by following a few easy steps on a regular basis. Like any other living creature (including us!) fish like to be in the right environment. If their environment becomes unsuitable, then they may become stressed or sick. So a small amount of preventative maintenance on a regular basis, will result in a happy tank and even happier fish.

Once a month:

- Perform a 25% water change. Don't forget to add Water Conditioner when you top the water up again.
- Test the GH (General Hardness) of the water. Add Conditioning Salts if necessary. (This is not normal salt, rock salt or pool salt. You will be able to buy proper Aquarium Salts from the pet store where you purchased your tank and fish.)

Once every two weeks:

- Test pH
- Test Ammonia, Nitrites and Nitrates if you want to be extra sure of tank health.

Once a week:

- Remove any algae from the tanks
- Use your Gravel Vacuum to remove any waste materials from the bottom of the tank.

6. Easy Daily Tasks

Your child will have so much fun feeding their pets every day. Be sure to supervise smaller children to ensure they don't overfeed their new friends (overfeeding pollutes the water and is potentially harmful.) While feeding, you can also perform a few quick visual checks to make sure that everything in your tank is working correctly.

- Feed 2 or 3 small feeds a day. Feed no more than your fish can eat in 5 minutes, and quickly remove any uneaten food. Feed a variety of foods to ensure good health, including Frozen Food as the occasional treat.
- Visually check that your filters, airstones, lights etc are working.
- Check water temperature, and ensure that your heater is functioning.
- If one of your fish has died, remove it immediately. Help care for our environment, and dispose of dead fish appropriately. Do not dump them into the sewerage or stormwater.

It's that easy! Start your new tank today, and within a short while you will have a wonderful new addition to your home. Have fun with your new pets.

The above is intended as a guide only, and we recommend that you speak to your pet store or aquarium store to find out more information. You will also find more information on the Aquarium Industries website www.aquariumindustries.com.au.

Helping Your Fish Cope with Extreme Heat



Extreme heat creates problems

When temperatures are high, fish go into metabolic overdrive, consume more oxygen and produce more waste products. These waste products can be more toxic at higher temperatures. Here are some simple tips to use when temperatures are extreme:

1. Cool the water

Add party ice (does not contain Chlorine) or frozen water bottles to help reduce temperatures for species that need cooler temps - but be careful with Marines, as adding frozen fresh water in the form of party ice will reduce salinity.

2. Maintain Oxygen Levels

Ensure that tanks are well aerated to maintain oxygen levels (the hotter the water, the less oxygen it can carry). Adding extra airlines will help to increase oxygen exchange.

Also check to ensure that filters are working properly, with adequate water flow.

3. Check Water Parameters

Make sure that water parameters such as pH are correct. Not sure? Visit the Aquarium Industries website for further Care Sheets and Information.

4. Do not Overstock

Reduce stocking densities - do not overstock tanks. Overstocking tanks increases oxygen consumption, which in turns decreases oxygen levels. Overstocking also increases the amount of waste that your filter system has to cope with.

5. Frequent Water Changes

More frequent water changes can help by reducing water temperature (if tap water is colder than the tank) and helps reduce build-up of toxic metabolites.

6. Reduce Feeding

Reduce feeding - this can help reduce the metabolic stress and production of wastes.

7. Minimise Lighting

Some lights can emit heat, that will increase the temperature of your tanks even further. We recommend that, if possible, lights be turned off on days of extreme heat.



General Hardness

An important water parameter

General Hardness is probably the most important, unchecked water parameter. General Hardness (GH) refers to the amount of Calcium and Magnesium salts (mineral salts - Sulphates, Carbonates, and Bicarbonates) present in the water. General Hardness has a considerable effect on pH and the ability of pH buffers that keep the pH stable as these mineral salts have a carbonate or bicarbonate component, they may also affect the Carbonate Hardness (KH) or Alkalinity. While KH can be tested, it only provides a measure of the buffering capacity of water, it does not measure all mineral salts present. When monitoring your hardness, GH is the preferred parameter to check as it is more complete than KH.

How does GH affect fish?

The chemical nature of water has a profound effect on the physiology of fish. The concentration of mineral salts affects fish in two important ways; osmotic regulation (equilibrium of the internal salt concentration) and blood calcium levels. Being open systems, fish are affected by the makeup of the surrounding water. As a consequence of osmosis, freshwater fish are subject to a continuous influx of water, while marine fish have to live with a continuous outflow of water. Fish have to maintain a constant internal body fluid concentration – a process called **osmoregulation** with the gills and kidneys playing a major role in this. The greater the difference in concentration between the fish's body fluids and the surrounding water – the greater the osmotic effect and the harder the fish has to work to maintain suitable levels of water and mineral salts within the body. If these concentrations are not correct then cells within body tissues risk bursting (due to too much water) or shrinking (not enough water, chemically 'drying-up'). Incorrect water conditions will also affect the ability for fish to maintain adequate blood calcium levels which can lead to problems with the functioning of many systems

within the body.

As this process consumes a lot of energy, it is important to maintain water conditions near to what fish have evolved in. This becomes more important under commercial conditions where fish may be kept in a 'high stress' environment where they are kept in high stocking densities, fish are constantly being moved in and out of tanks. Any of these stress factors can compromise the ability of fish to osmoregulate with energy that would normally be used to osmoregulate being diverted to deal with the stress response and immune responses.

Our general recommendations for GH are:

Fish Type	pH	GH in ppm
Goldfish and Coldwater species	7.0 – 7.5	150
Miscellaneous species	7.0	100 -150
Tetras and Discus	6.5 – 7.0	50 - 100
Livebearers, Brackish and Rift Lake Cichlids	7.0 – 7.5	250 - 300

Helping Your Fish Thrive in Cooler Months



Fish get cold too.

During cooler months, fish can become stressed, leading to health problems. Follow these simple tips to help your fish to thrive during Winter.

1. Avoid Drafts

Make sure that your fish tanks are not exposed to cold drafts at night—it may pay to shut doors to reduce this.

2. Check Temperature

Check the temperature of your tank with a thermometer. Heaters sometimes stick and their thermostats break down. If your heater does not appear to be working, replace it. For information about the ideal temperature in which to keep your fish, download the free Care Sheets from the Aquarium Industries website.

3. Check the Size of your Heater

Check that your heater is big enough for your tank, by following the manufacturer's recommendations.

4. Check Water Parameters

Ensure that your water quality is correct—once again, the Aquarium Industries Care Sheets are a great resource for this information. Purchase a quality Water Test Kit and test your water regularly. Keep the tank clean, and check that your filters are fully operational.

5. Avoid Large Water Changes

Filling the tank with cold water can reduce the temperature significantly, leading to stress and disease. Try more frequent, but smaller, water changes instead.

6. Treat with Medication as needed

Fish under temperature stress can commonly suffer from fungal disease or whitespot. Keep an eye out for these, and treat with medication as needed.

7. Feed a Nutritious Diet

Make sure that you feed a nutritious diet, to boost your fish' immune system. Ensure that it is a quality food such as Tetra. Cheaper brands do not always contain all of the nutrients that your fish require. Frozen foods can also be a big help in adding vitamins and minerals to the diet.

