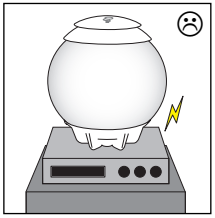
biOrb® HALO

Setting up your aquarium

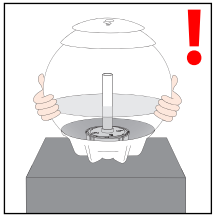
This guide will help you understand how your aquarium works and how to create a healthy environment for your fish. Please read these instructions carefully before filling your aquarium with water.

Aquariums are not toys, adult supervision is recommended. Removing serial number label and/or dismantling your aquarium will invalidate your guarantee.

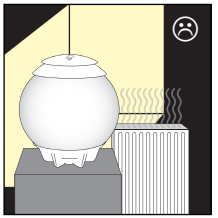
DO NOT PLACE ON OR NEAR ELECTRICAL ITEMS



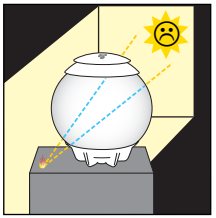
DO NOT MOVE WHEN FULL



AVOID HOT AREAS



AVOID SUNLIGHT



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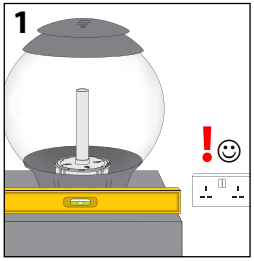

Carefully remove all the contents from the box and check. Choose a suitable location for your aquarium and noting all the advice above, place your aquarium on a strong and level surface.

Remember the aquarium needs a power source within reach.

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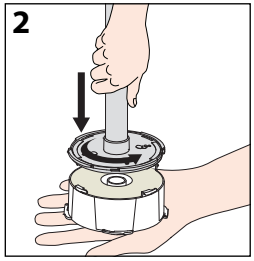

Remove protective cellophane wrapper from filter cartridge and rinse under running water. Remove the Bubble Tube from the inside of the aquarium (if fitted). Offer up filter cartridge to bubble tube and twist the bubble tube in the direction of arrow ensuring all cartridge tabs are fully locked.

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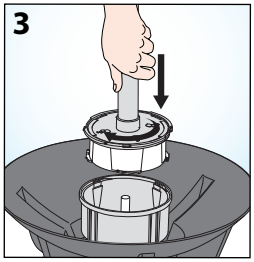

Ensuring no objects are in the way, insert bubble tube and filter cartridge assembled in step 2 into the aquarium and lock into place by giving the bubble tube a quarter turn.

When positioned correctly, the bubble tube and filter will remain in place.

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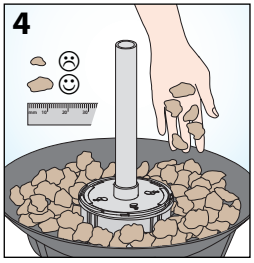

Wash the ceramic media supplied **thoroughly** before placing around the filter body, ensuring none remains on top of the filter housing.

Use only ceramic media supplied, do not use aquarium gravel. Discard any pieces smaller than a pea.

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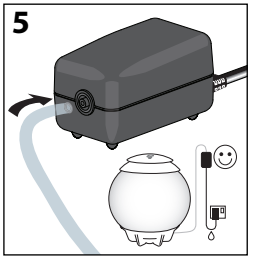

Connect the airline to the pump as shown and place in a suitable position.

Positioning the pump higher than the aquarium water level will prevent water leakage or damage to the pump should the one way valve fail.

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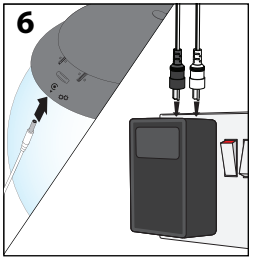

Plug the pump and light unit into the separate sockets on the transformer supplied, then plug the transformer into the power source and turn on.

The pump should be on 24hrs a day.

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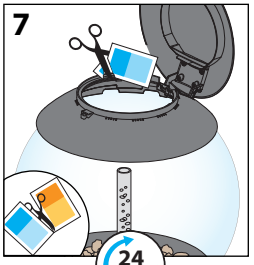

Fill the aquarium with tap water to approximately 2"/5cm from the top and add the Water Conditioner.

DO NOT overfill the aquarium if you intend to add decorative items such as pebbles as they will displace the water.

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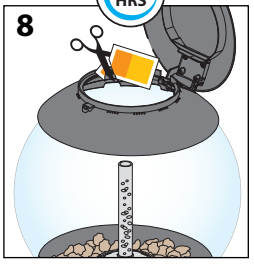
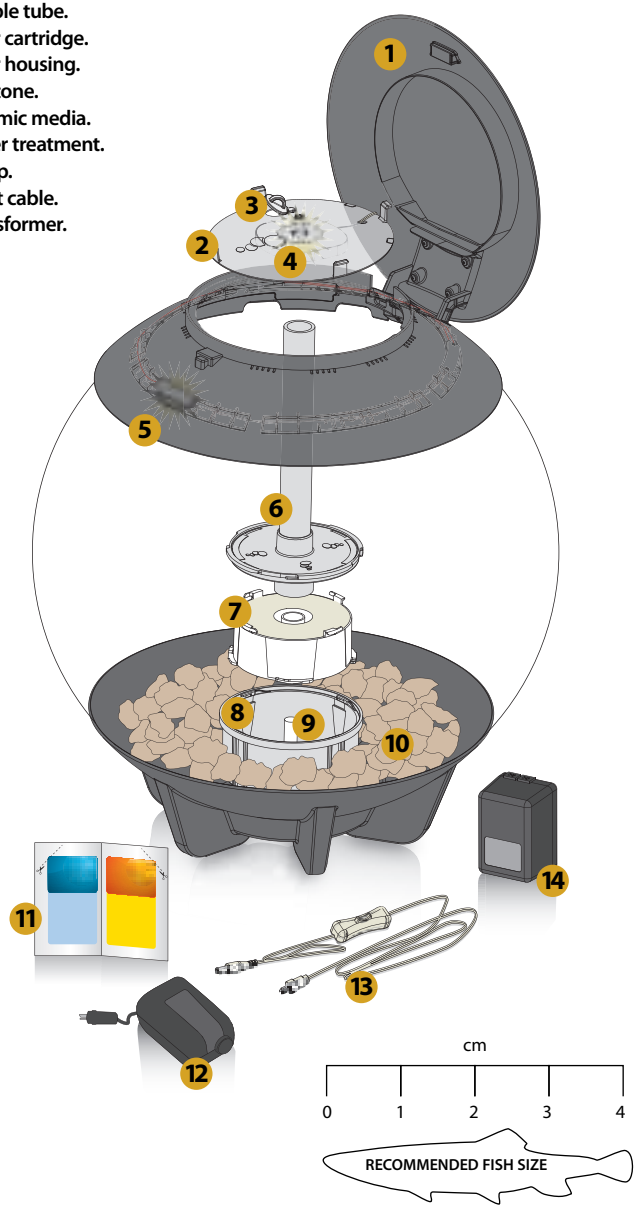


Leave the aquarium running for at least 24hrs before adding the Biological Booster and then you will be ready to add your first fish.

Do not immerse the light unit in water.

Your biOrb

1. **Hinged lid with magnetic catch.**
2. **Evaporation lid.** (Light Ring version only).
3. **Feeding hole.**
4. **LED top light** (Standard version only).
5. **LED light ring with moonlight** (Light Ring version only).
6. **Bubble tube.**
7. **Filter cartridge.**
8. **Filter housing.**
9. **Air stone.**
10. **Ceramic media.**
11. **Water treatment.**
12. **Pump.**
13. **Light cable.**
14. **Transformer.**



The aquarium life cycle

The cycle starts as soon as you add ***Biological Booster*** to your aquarium. The beneficial bacteria in ***Biological Booster*** will start to colonise the **Ceramic Media** (Supplied). These beneficial bacteria form a vital part of the biological filtration by breaking down poisonous waste created by the fish.

Stage 1 the waste produced by your fish and uneaten food will start to rot producing Ammonia. This is extremely toxic to fish but will be gradually broken down by beneficial bacteria in the Ceramic Media, so it's important that only one fish is added to the aquarium at a time and never add any more than the recommended number of food pellets. Following this rise in Ammonia the Nitrite level will also start increasing 2 until the Nitrospira bacteria have time to reproduce in sufficient quantities to remove the Nitrite. The final stage of the cycle 3 will see a Nitrate spike; this is the least harmful to the fish and will reduce to very low levels over time. Use of the **Service Kit** will keep Nitrate to a safe level.

Adding and feeding fish

After 24 hours you can add the first fish to your aquarium. The chart will help you. Fish transferred from an existing aquarium must be introduced in the same way as new fish. For every 1"/2.5cm fish added it will take at least 28 days for the aquarium to cycle and the filtration to catch up. Add at a rate of one small fish every 28 days until maximum stock level is reached. **Too many fish too soon will create high ammonia levels poisoning the fish.** (see Aquarium Life Cycle above). It is recommended that you start with a hardy species, consult you local aquarium store for suggestions. Non-hardy fish such as Neon-Tetra or Blackmoors are not recommended for the first month.

GOLDFISH 1"/2.5CM	MONTH 1	MAX
HALO 30 (30L/8 GAL)	1	3
HALO 60 (60L/16 GAL)	2	6

MINNOWS/SML TROP.	MONTH 1	MAX
HALO 30 (30L/8 GAL)	3	12
HALO 60 (60L/16 GAL)	6	24

Take care not to overfeed your fish and remove any leftovers after 2 mins. Different fish have different nutritional requirements so use an appropriate food.

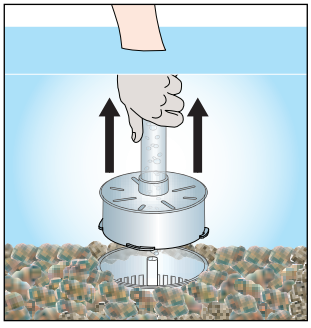
Small goldfish	**2-3 pellets per day**
Large goldfish	**3-4 pellets per day**
Small tropical fish	**4 micro pellets each per day**

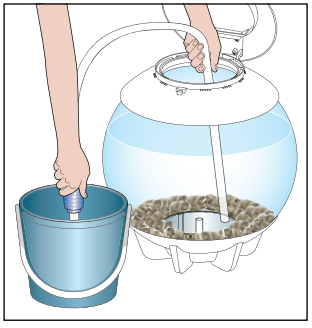
Caring for your aquarium

General maintenance

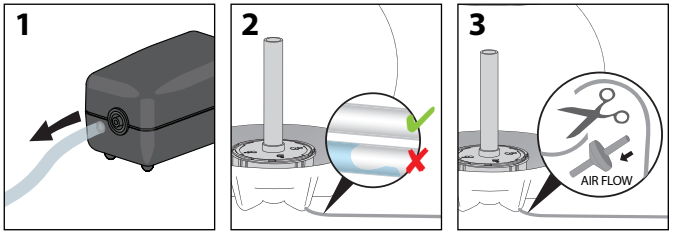
AQUARIUM	TASK	FREQUENCY
HALO 30 (30L/8GAL)	Replace Filter Change Water (30%)	6 wks 3 wks
HALO 60 (60L/16GAL)	Replace Filter Change Water (30%)	4 wks 4 wks

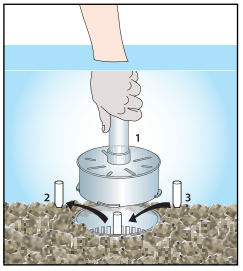
Every 4 to 6 weeks replacement of the dirty filter cartridge and a 30% water change is essential to reduce nitrate and phosphate pollution in the water. The **Service Kit** contains a new filter cartridge, water chemicals, cleaning pad and instructions. A **Cleaner Pump** (not supplied) is a convenient way to remove debris and siphon out the water. After setting up the aquarium never use tap water to clean the ceramic media, this will kill biological filtration.





This is also a good time to check that the **One Way Valve** is working correctly. Disconnect the airline from the air pump (1) lower the airline to below the aquarium water line (2). If water leaks into the airline, fit a new One Way Valve by cutting the air line and inserting the valve into the ends of the airline (3) observing the correct orientation to ensure air flow.

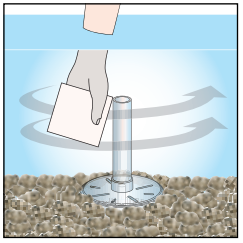




Every 6 months the **Air Stone** in the base of the aquarium will eventually become blocked by calcification restricting the flow of bubbles into the aquarium. The Air Stone should be replaced as shown.

After 12 months the **Air Pump** could become noisy and the flow of bubbles reduced even after changing the Air Stone. Replace the Air Pump immediately to avoid water quality problems.

Green Water in aquariums is caused by algae growth. Some algae is natural, but if the water quickly turns green it may be caused by over feeding, too much light, too many fish or high levels of nitrate and phosphate in the tap water. First reduce feeding and seek advice from our website at www.biorb.com. A **No Algae Kit** can be purchased but if the problem persists it may be necessary to move the aquarium away from too much natural light.



Cleaning the aquarium requires care to prevent scratching. Never use household detergents, polishes or scouring pads to clean the aquarium. Always use a **Cleaning Pad**. The outside of the aquarium can be wiped with a soft cloth or purchase a **Plastic Scratch Remover & Polish kit**.

Frequently asked questions

Why do I have to change the filter cartridge so often?
The filter cartridge works like a waste bin and will eventually become 'full'. By regularly changing the cartridge everything it has absorbed is removed from the aquarium, just like taking your household waste bin out to be collected. For optimum filtration the filter cartridge should be replaced every 4-6 weeks.

Can I wash the sponge?
If the sponge gets dirty before a change is due it can be washed. However the chemicals in the filter cartridge only remain 'active' for 4-6 weeks. Therefore the cartridge should be replaced.

What does the filter cartridge contain?
The filter cartridge contains activated carbon and resins that should be removed before using aquarium medications. Leave the sponge in the cartridge to continue trapping dirt and replace with a new cartridge when the treatment period is over.

Do I have to keep the ceramic media provided?
The ceramic media provides essential biological filtration. It is your fish's toilet and bacteria will colonise the media to consume toxic fish waste making the water safer for your fish to live in. Without this the water would quickly become very polluted.

Can I put aquarium gravel in the aquarium?
It is not recommended to put gravel, sand or small stones in a biOrb. Gravel is likely to block filtration and may become lodged in the filter cartridge casing.

Will changing the cartridge kill the filter bacteria?
No. The filter cartridge provides mechanical and chemical filtration. Biological filtration is provided by the ceramic media, so not affected by the filter cartridge.

Why do I have to keep the aquarium out of sunlight?
Strong daylight can encourage excessive algae growth and cause temperature fluctuations within the aquarium making life uncomfortable for fish.

Can a heater be added to the aquarium to make it tropical?
A 50W heater can be added to the aquarium with the aid of a heater stand.

Can I use a longer airline?
Air line longer than 3-5 metres will require a larger air pump. Attach new airline to the pump end of the existing airline, not the aquarium end. Trim the end of the tube you detach from the pump and use either a straight airline connector, or better still a one way valve.

Why am I getting fewer bubbles?
If you have noticed that there are fewer bubbles you may need to change the air stone. Alternatively if you have just changed the filter cartridge, air from the sponge may be trapped inside the cartridge. Twist the bubble tube and lift one side of the filter cartridge slightly to allow the air to escape.

What happens if the pump stops?
It is advisable to keep a spare air pump. Without oxygen filter bacteria will start to die and the water may become polluted. If you have live plants remove these from the aquarium at night so that they do not take oxygen away from your fish. Do not feed your fish for a few days. It is advisable to test the water after a noticeable power cut to see if water changes are necessary. After a power cut it is essential that the air pump is raised well above the aquarium water level as per air pump instructions.

Why is the pump noisy?
Noise from the pump is usually caused by vibration against the surface it is on. Place the pump on a softer surface like a mouse mat or hang the pump up. Make sure the airline is pushed into the air pump as far as it will go.

Why have real plants?
There are several benefits to growing real plants in the aquarium. Plants feed off nitrate and phosphate, helping to keep levels low and algae at bay. They also provide hiding places for fish, add interest to their environment and a tasty snack for some fish.

What type of plants?
Unless you convert your aquarium for plant growth some species can be very difficult to grow. Trial and error is often the only way to find good plants for your aquarium. Try inexpensive bunches of hardy plants to begin with. Fast growing stem plants like Elodea densa or Cabomba aquatica, often sold as 'goldfish weed' or 'oxygenators' take in nutrients through their leaves rather than roots. They will fight with algae for food and cope with well filtered aquariums. Generally, fish like to graze on soft, bright green plants. Tougher varieties, or fast growing plants usually withstand the attentions of fish, however some fish will destroy any plant. Very bright green or red plants generally need more specialist lighting in order for them to thrive. Selecting several plants of different heights will add interest to the aquarium for you and your fish. Buy plants that are fresh and healthy.

Do plants oxygenate the water?
During daylight hours plants use carbon dioxide and release oxygen into the water. When it is dark however they do the opposite, this is why plants shouldn't be used to oxygenate aquarium water. Make sure the plants you buy are 'aquarium plants' and not varieties sold for ponds.

Artificial plants - Plants can be difficult to grow and many people prefer to choose artificial aquarium plants. There are many to choose from, usually made from plastic or silk, and can look very realistic. Although they do not have the benefits of live plants they never die and can be taken out and washed when dirty.

Fixing plants in the aquarium - Plants are usually sold in pots or bunches; both can restrict the growth of the plants. Pots must be removed, the substrate used around the roots can cloud the water. Most stem plants can be kept in their bunches as long as they are regularly taken out and trimmed.

Use the ceramic media in your aquarium to anchor plants into position. Remove 5-6 rocks, insert the plant into a gap and then place the rocks around the plant to secure it. Single stems can be fed in-between the rocks quite easily. Plants with good root systems, such as Cryptocornes and java fern, can be loosely tied onto bogwood or aquarium rock with fishing line. These plants should then grow onto the surface. This makes it easier to position the plants and lift them out of the water.

Aquarium gardening - Most plants do not need much care. However, a little gardening during normal aquarium maintenance will keep plants looking their best. Dead leaves should be removed as soon as you see them otherwise they will rot and pollute the water. Take dead leaves off cleanly close to the stem. If a plant dies creating a lot of mess care should be taken to remove all of the plant, if left in the aquarium it may cause poor water quality and algae problems which will be harder to rectify later on.

What fish can I keep?
There is a good choice of cold water fish available and tropical fish can be kept if an aquarium heater is fitted inside the aquarium. The suitability of fish depends on their adult size, behaviour and requirements. It is recommended that you start with a hardy species, consult you local aquarium store for suggestions. Non-hardy fish such as Neon-Tetra or Blackmoors are not recommended for the first month. Hardy fantail goldfish are a good choice for biOrb/biUbe aquariums. Fantail goldfish have long tails that look like two tails joined together. Their bodies are short and round. Avoid fancier varieties such as bubble eyes and pearl scales which can be harder to care for or Orandas that can grow too big.

Common goldfish are fast swimming and boisterous, they shouldn't be mixed with fantail goldfish and are better suited to very large aquariums or ponds. Common goldfish, such as comets and shubunkins usually have a single flat tail and cigar shaped bodies. Smaller cold water fish such as white cloud mountain minnows make good first fish, a shoal of six can be mixed with fantail goldfish.

Temperate fish can be kept without a heater providing you use a thermometer to check that the temperature in the aquarium does not drop below 19°C (17°C at night). These can include danios, some guppies and platys amongst others. Only buy fish that have already been acclimatised to cool water. These shouldn't be mixed with goldfish.

DO NOT keep 'bottom feeding' fish, such as common pleco, loach or catfish in biOrb/biUbe aquariums. The ceramic media used for biological filtration is unsuitable for them. Many of these species also grow very large.

There is a large variety of small tropical fish that can be mixed together or kept as a large shoal of one species. As with any pet, before buying you should do a little research into your chosen fish from the wealth of fish books or websites available.

Check that the fish you buy will be compatible with your existing fish and/or the fish you plan to have. They should be healthy and alert, scales should be smooth and not damaged or infected.

With fantail goldfish in particular check that they are swimming easily (not sideways or up-side down) and that their tails are not held at an abnormal angle. Don't be afraid to reject a fish that you do not think is healthy. If you are not completely happy with it don't buy it.

Getting your new fish home - Moving to a new aquarium is a very stressful experience for fish. This can be too much for them and some do not survive. By planning your purchase and taking care you can minimise this stress to give your fish a better chance of enjoying their new home. Always make sure that the fish you buy can be taken straight home to your aquarium. When travelling, keep the fish steady, secure and out of direct sunlight. The fish bag should be covered with a paper bag or box to reduce stress and help tropical fish maintain their temperature. At home, open the bag and roll down the sides like a sock. Equalise the temperature in the bag and the aquarium by floating the open bag on the water surface for 30 minutes. Carefully tip the bag to allow the fish to swim out. Try to minimise the amount of water from the bag entering the aquarium. Leave the aquarium light off and do not feed for a day or two. Like any pet you should research the needs of the fish you want before taking them home.

What to feed - Good quality prepared fish foods provide a well balanced diet but fish will relish a variety of foods. Fantail goldfish in particular will benefit from a varied diet. Daphnia, brine shrimp or bloodworm are enjoyed by most fish and can be purchased

either live, in frozen packets or in vitamin enriched jelly. Only buy live food from a reputable source. Frozen foods should be defrosted before being fed.

Pellets or flakes?
Eating flakes requires the fish to spend a lot of time gulping at the water surface where it could swallow too much air. Pellets are easier for goldfish, for whom swallowing air can contribute to swim bladder problems. Pellets are also easier to administer than flakes and are less likely to cloud the water. Smaller pellets can be purchased for tropical fish and minnows that are more suited to their nutritional requirements.

How much food should I feed the fish?
Fish, especially goldfish, are programmed to gobble up everything they can, far more than they need. Everything a fish eats is excreted into the water so the more the fish eats the higher the risk of pollution becomes. A well fed aquarium is more likely to develop poor water quality, sick fish and algae problems.

Small goldfish	**2-3 pellets per day**
Large goldfish	**3-4 pellets per day**
Small tropical fish	**4 micro pellets each per day**

Goldfish and tropical fish have different nutritional requirements, use an appropriate food for each. Any food left in the aquarium after two minutes should be removed. **Fish will keep looking for food even when they don't need it.**

What should I do if a fish dies?
If a fish dies you should remove it from the aquarium immediately, if left in the aquarium it will badly pollute the water. You should try to establish why the fish died. Make a note of anything that is abnormal. Take a sample of your aquarium water to a good aquatics retailer for testing and advice.

Dealing with disease - Good aquarium husbandry and fish selection is important - prevention is better than cure. Chronic stress, usually from poor water quality, can make the fish susceptible to disease. If fish show symptoms of a disease get the water tested, if water quality is good then use a suitable medication to treat the fish. If water quality is poor this must be remedied before or at the same time as using medication; a sick fish in bad water is unlikely to recover.

Make a note of all the abnormal symptoms your fish are showing and get advice on which medication to use. Most medications include very clear instructions on diagnosis and treatment, some also offer a help line.

The activated resins in the filter cartridge should be removed during the treatment period. Always follow the manufacturers instructions.

Swim bladder problems - The swim bladder is a gas filled sack inside most fish that controls their buoyancy in the water. Problems with the swim bladder cause the fish difficulty in swimming, and are common with fantail goldfish. Bacteria infections and air swallowing are thought to be common causes of these problems. Feeding a varied diet can help in prevention.

Swim bladder problems are not usually life threatening, however it can be a symptom of a more serious disease. If a fish is suffering badly for more than a day or two it can be worth using a swim bladder medication.

Some fish suffer regular bouts of problems; the fish is uncomfortable but soon recovers. If, however, a fish constantly suffers with swim bladder problems to the extent that it affects quality of life, you may wish to consider seeking advice from a vet.

Do fish need company?
It is unlikely that fish get lonely or bored, however, animals do benefit from having a more challenging lifestyle. Fish must be compatible and goldfish should be of a similar size when introduced to each other. Shoaling fishes like minnows need to live in a shoal. They can feel under threat of predation without the security of a group.

Do I need to test the water?
Water tests should be routine for every fish keeper. You can purchase a test kit to use at home or take a sample along to a good aquatics shop. It is important to test for ammonia, nitrite, nitrate and pH.

Ammonia - Ammonia (from fish waste) level is likely to be quite high every time a fish is added. Once the aquarium is established, ammonia readings should be no more than 0.02ppm (mg/litre)

Nitrite - Like ammonia the level is likely to be high when fish are added but once the aquarium is established should be no more than 0.2ppm. Subsequent high readings of ammonia or nitrite could indicate that biological filtration has broken down, that the fish have been overfed or there is dirt in the aquarium.

Nitrate - Nitrate should be used as an indicator of your aquarium's hygiene. It shouldn't be more than 50ppm above the level of nitrate in your tap water. If it is higher then you should increase the frequency of partial water changes and remove the cause -usually over feeding.

pH - is the measure of acidity and alkalinity of water. pH 7 is neutral, 1-7 is acid, 7-12 is alkaline. Most cold water fish prefer a pH of 7.5-8.5 tropical fish vary in their requirements. Even tiny changes in pH are very stressful to fish.

Filtration cycle - Fish eat food, the waste produced by the fish (ammonia) is consumed by the filter bacteria and turned into the less harmful pollutant nitrate. These pollutants should be kept low with regular maintenance and light feeding. If these pollutants build up they will encourage green water and poor fish health.

It is important that the biological filter is given time to become established. A few bacteria are introduced to the aquarium with the water preparation chemicals so that 24 hours later one small goldfish can be added.

When the new fish is added the filter bacteria start to multiply to catch up with the amount of work they have to do. After about 28 days there should be enough bacteria to keep the water clean and safe. The aquarium has 'cycled' and is ready for one more goldfish. The aquarium has to go through this cycle every time a new fish is added. If more than one goldfish is added there will be a lot more fish waste. The filter bacteria cannot catch up quickly enough. Adding a large fish or over feeding will have the same effect. As the fish keep going to the toilet the water becomes more and more toxic, this can kill your fish. The less you put into the aquarium the healthier the water will be. Good fish keepers look after the water, the fish look after themselves.

Why has the water turned green?
Green water is caused by algae. This is a single celled plant that is naturally occurring in aquariums. Small amounts of growth are normal and easily dealt with during a normal service. If large areas of algae grow or the water goes very green very quickly this indicates that there is a problem with the water that's causing the excess growth. Algae needs sunlight and nutrients in order to grow. Too much daylight, especially during the summer months when the days are longer and warmer, will cause algae to thrive. Excess nutrients in the water, from over feeding for example, will also cause algae problems. It is easier to prevent algae than to remove it once it has become a problem.

Do I ever need to clean out the whole aquarium?
Providing you follow instructions with regard to feeding, fish selection, location and maintenance you should never need to empty and clean the aquarium. If you do ever need to do this you should keep at least 1/3rd of the old water and clean the ceramic media in dirty water taken from the aquarium (never clean in tap water). Aquariums use filter bacteria to remove toxic fish waste: creating a biological filter in the ceramic media. These filter bacteria are not already present in new aquariums, they will start to multiply when they have a food supply = fish waste. This means that when a fish is first added there will be more fish waste than there are filter bacteria to remove it.

Why do I need to add fish gradually?
When the fish goes to the toilet ammonia is created, this can be deadly to fish. The bacteria convert the toxic ammonia into nitrite and then a safer substance called nitrate. When a fish is added the level of ammonia and nitrite will rise sharply. As the filter bacteria catch up they will keep the ammonia and nitrite to a safe level and the safer nitrate will steadily rise. This process is called the 'cycle' and will take about 28 days for one small goldfish.

This is potentially a risky time for the fish and the level of ammonia should be minimised by introducing a small fish and not feeding too much. Even so, some fish may not cope with life in very new aquariums. **It is essential that fish are introduced gradually at a rate of one small fish every 28 days.**

Filter bacteria need food (fish waste) so that they can multiply. To multiply, the bacteria need food and a constant supply of oxygenated water. This is provided by the air pump that must be left running 24 hours a day. There will only ever be enough filter bacteria for the fish already in the aquarium.

It is important that the biological filter is given time to become established. A few bacteria are introduced to the aquarium with the water preparation chemicals and 24 hours later one small goldfish can be added.

When the new fish goes to the toilet the level of ammonia will start to rise. In response, the filter bacteria multiply to catch up with the amount of work they have to do. The fish should be fed very sparingly.

The ammonia level will continue to rise, after a couple of weeks the filter bacteria will have started to catch up and the level will fall. After about 28 days the filter bacteria should have caught up. The water quality should then be good and the aquarium is ready for one new fish. This process will happen with every new fish.

If more than one goldfish is added at one time then the level of ammonia could get dangerously high. The extra ammonia could make the fish very ill or even kill them. Too much food or too large a fish will also create extra ammonia.

Got a question not answered here? Get in touch by phone, fax or email and we will be happy to deal with your query. Contact numbers and addresses can be found on the reverse of this manual.

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