
**An Essential Element of Fish Keeping**

Keeping an aquarium is not complicated and success will be the outcome if a few rules are followed. In the wild disease, waste, and excess food is not concentrated and contained within glass walls. In an aquarium environment, the inhabitants living area is limited. Their feeding area and waste accumulate and can cause high ammonia levels and bad water conditions very quickly.

The key to keeping happy, healthy fish is WATER CHANGES. The benefits are unending. Everyone I know, has over fed and some are continuous over feeders. Most aquariums contain too many fish. This combination is a disaster waiting to happen and normally you wont have to wait long. The first signs include scratching against objects, cloudy water, excessive amounts of algae, and fish with bulging bellies. Water will also turn yellow as decomposition occurs. Yellow water is a sign it needs to be changed. Conditions, including ph, can change very quickly and you may not notice the signs until it is too late. Changing part of the water once a month will help to keep all problems to a minimum and the PH constant. Consequently, there is less decay in the water and better water conditions.

I have been involved in this hobby for more than half of my life. I have made mistakes over the years,and hopefully you will reap the benefits of my experience.

Please understand the importance of following the suggestions outlined in this site, from buying & setting up your new tank, to maintaining it the proper way. Every year, thousands of frustrated tank owners spend hundreds of pounds & wasted hours, only to get so fed up they pack it all in.

I am going to make a promise to you, that if you truly take the time to sit and read and understand the following , I just know that you will have a better fish keeping experience.

**Small GoldFish Setups**

Goldfish in a bowl have always been a popular pet for young and old alike. With economical kits available that include bowl, filter and food, keeping them healthy and happy has never been easier. Especially if a few common sense steps are regularly followed.

**Setup**

When initially preparing a bowl, all the parts should be rinsed of debris with fresh lukewarm water. Soap is not recommended, if the bowl is stained, use aquarium salt and a soft cloth to remove it. The most common filtration in Goldfish bowls is the round Undergravel filter plate covered with gravel about two inches deep. In addition to keeping the plate in place, this is where beneficial bacteria that remove harmful organic products live. If a carbon cartridge is part of the filter,

rinse out any carbon dust and ensure that it is properly inserted in the uplift tube. Add any decorations and plastic plants as desired.

Attach the air pump and ensure that enough air is produced so you cannot count the bubbles. Never restrict the full air flow of the pump, if the air stream is too strong, purchase a ganged valve with one more outlet than needed to bleed any excess.

**Water**

Fill the bowl with dechlorinated tap water. One of the best tap water conditioners is AquaPlus which neutralises the chlorine and chloramine as well as free metal ions in the tap water supply. The bowl should be filled to a point where there is adequate water capacity without splashing over the sides.When a large percentage of the water is added or changed, a water conditioner is also recommended to ensure the new water does not cause any stress or irritation to tender fish tissues.

When simple chlorine is added to tap water, it is added as a gas and can be allowed to escape by drawing tap water into a plastic container and letting it stand for at least 24 hours.This also allows the water temperature to rise to ROOM temperature.The same as the bowl temperature.

Evaporation occurs constantly and water should be replaced as the level falls. It is a good idea to prepare water in advance, approximately the same capacity as the bowl in case there is an emergency and the fish have to be removed rapidly from the bowl. Use this reserve to refill evaporation and for regular water changes. Tap water can be treated in a plastic container and then kept covered until it is needed. This lets the water age naturally and is gentler on the fish when it is used.

**Feeding**

The best advice on feeding is simple, feed only as much food as the fish can eat in TWO minutes without ANY reaching the bottom and being left to decay. One of the greatest errors new aquarists make is to overfeed their fish. Feed sparsely . Overfed fish have reduced digestive efficiency and create more partially digested wastes to be released into the bowl.Excessive organic material can release great quantities of toxic ammonia into the bowl. It requires quite low concentrations of ammonia to kill fish.

Should you overfeed, it is important to net out any excess as soon as possible. Fish have evolved never knowing when their next meal will be available, for this reason fish will appear starved even five minutes after a substantial feeding. Space the feedings out, one or two small feeding periods a day will normally be quite adequate for the fish in your bowl. Goldfish often survive and thrive on a single feeding every other day.

**Maintenance**

The carbon cartridge should be changed regularly. Carbon and the rest of the filter material remove solid and chemical wastes and can become clogged relatively quickly. Check the cartridge often. Follow the manufacturer's recommendations when to replace the cartridge.

Partial water changes should be performed every few days. Remove and replace between 10% to 20% of the water. If you do not keep a reserve, prepare some water in advance by putting it in a clean, soap free plastic container (bucket) few hours before the cleaning. Use AquaPlus, and allow the water enough time to reach room temperature. This will avoid a temperature shock to the fish when the new water is added.

If the walls of the bowl are coated with algae or other substances. Wipe them with a clean, soft cloth or sponge. Remove no more than half the water and replace with the water you have prepared. Pour it back into the bowl slowly so the fish and decorations are not disturbed.

Filtration reduces the need to completely clean the bowl and its contents. Every time a complete cleaning is done, it has the possibility of destroying all the beneficial bacteria that live in the gravel . When the entire habitat must be cleaned, remove the fish in their original water to a separate container. Use about half the water from the bowl to keep them. Be gentle when catching them. Rough netting often removes the protective slime that protects them from parasites and other diseases. Never squeeze a fish in a net, cup it so it cannot hurt itself.

If the gravel is dirty, it can be rinsed. Gravel should never be exposed to untreated tap water, the chemicals in standard tap water will kill beneficial bacteria as well as fish. It is better to rinse the gravel in the bowl's old water and then replace it.

The decorations and plastic plants can be rinsed and wiped under tap water to remove any algae growths. If at all possible, NEVER use soap or detergents when cleaning. These might leave harmful traces that can kill the fish when they are returned to their home. It is better to gently wipe down all surfaces with a clean soft cloth and lukewarm water. Rinse all parts thoroughly (except gravel) in fresh water before replacing them. The fish should then be returned to the bowl. It is often a good idea to use the water the fish are swimming in to refill the bowl. This allows the fish to adjust to the water with greater ease since the conditions do not change as radically as if they are simply placed in brand new water. AquaPlus adds an artificial coating to the fish to protect it from attack by parasites when the natural slime coating is rubbed away during the cleaning phase.

You should also add a dose of Cycle whenever water is changed or replaced. This will supplement the beneficial bacteria and help ensure adequate reduction of ammonia and nitrite, even immediately after a complete change.

**Selecting Gravel & Ornaments**

Aquariums or bowls require a gravel bottom which mimics the bottom of a pond or river bed & provides a good base for rooting plants. For most freshwater aquaria, you should use natural gravel that can be purchased from a local pet shop. It is also available in a rainbow of colors & sizes.The gravel size is important for a few reasons.If you are using an undergravel filter, the spaces between gravel particles should not clog allowing ample aeration for bacteria which will eventually colonize the surfaces of the gravel. You should follow this general rule: 1-lb. of gravel per every gallon of aquarium water. If you have a 10 gallon tank, you should use 10 lbs. of gravel. Aquatic plants also require a bed which will allow diffusion of nutrients to the roots.

Decorating your aquarium provides both benefits for you & for the fish. First of all, a fully decorated aquarium looks GREAT in any room in your household.

Secondly, many fish are territorial, & rock formations along with plants & a variety of other decorations will provide needed territorial boundaries.Smaller fish may need a place to hide when escaping larger species, a place of refuge in small nooks provided by rock formations. Decorations also provide shade for species of fish which may require darker areas.

Not all decorations are suitable for freshwater aquariums. Coral, seashells, limestone & marble will dissolve in freshwater & may increase the pH to unacceptable levels. If you wish to use any rocks, driftwood or gravel,do not take from natural streams or ponds.This will avoid the introduction of snails, or other unwanted parasites.

Using a background behind the aquarium serves to the beauty of the tank as well as to create the darker areas preferred by shy species of fish. It will cover up the unwanted look of hanging wires & filters etc. so the look you are trying to achieve will be more natural.

**Water Test Kits**

The serious aquarist should invest in water test kits which will enable you to measure & keep track of pH, ammonia, nitrites, & water hardness. Most kits sold are easy to use & are based on color changes in the sample being tested, then compared to a color standard. The only way to change the results of these tests is with water changes to the aquarium, special resins, or products sold specifically for the problem you encounter.

**Setting Up Your Aquarium**

You will need to choose a FLAT location to set-up the aquarium If the tank is not level or seems in any way unstable, you must find another location. The aquarium should be placed in an area where it will be BEST viewed, but not where it's accessibility is limited. Remember, you will need to maintenance the tank monthly, so place it where you can work easily & unobstructed. Do not place the tank in direct sunlight, or near a bright sunny window, otherwise algae will accumulate rapidly & the water may overheat.Never place the aquarium close to radiators.This can complicate the task of regulating water temperature.

Once you have set up the tank in the desired position, you may now install the under gravel filter plate & all its components.Add the washed gravel to about a depth of 2/3 inches.Slope the gravel higher in the back & lower in the front. After the gravel is added, fill the aquarium part way so that it is easier for you to set the plastic plants & other decorations.You may add a shallow pan to prevent the gravel from being displaced, while you are adding the water.

Construction of caves & recesses makes for more interesting viewing, while providing shelter for more timid species of fish. When building these formations do not cover the entire bottom from end to end, doing so will limit the water flow through the gravel bed.

Plastic or live plants should be placed with the taller varieties toward the back & sides to hide the tubes, heater, etc. Live plants need optimum water conditions, lighting & nutrients, so waiting to add them to the aquarium until the water has been established for a period of time, may be your best bet.

When installing the heater, placement should be where the most circulation of water will occur. The temperature should be set before the addition of fish. Let the heater acclimate to the aquarium water for about a half an hour, then you will need to plug in the heater (after the tank is filled) & position the thermometer where it is readable but always in a central location on the glass (it does not have to be placed in the front of the aquarium). Follow the manufacturers instructions on setting the heater, & monitor it closely for the first 24 hours. Adjust it as required to obtain the desired temperature.

Providing aeration is the next matter of concern. When air tubing is connected to an air stone or decoration, there is always the chance of water back-siphoning into the tubing & the pump if it is placed on a table or stand behind the aquarium, & lower than the level of water in the aquarium. This can be avoided if the air pump is positioned higher than water level, or with the use of an anti-siphon valve (check valve), inserted in air lines. When using more than one air stone or lift tube( from an under gravel filter), you can purchase a gang valve with multiple split outlets for multiple uses of the tubing. Also, the air pump must be powerful enough to supply air to run its intended item when there are multiple items, & to pump in deep aquariums where the air pressure can be more than in shallow tanks.

After all of these steps are completed, & the tank is filled with water, you may now add your power filter or other mechanical filtration. Again, follow the set-up instructions as supplied by the manufacturer, & position it so that the flow of water is in the center of the aquarium, for even distribution of water flow. When it is plugged in, & operating properly, you will need to let it run continuously day & night. It is not recommended to shut it off at night or at any time except for maintenance & water changes. This is so the motor will not run "dry" & become damaged when you drain down the water during maintenance. If the filter is constantly turned on & off unnecessarily, your power filter may be subjected to wear & tear, or the water may not remain consistently healthy due to the lack of flow of freshly circulated water.

There are a few things you will need to do to prepare the water for your new fish. Dechlorinating the water if the local water supply adds chlorine at the main pumping plant which destroys bacteria pathogenic to to humans. Chlorine can be removed from tap water in 3 ways. Aeration of water, will result in diffusion of chlorine into the air. By letting the water filter for 24 hours, you will achieve this. Passing water through activated carbon is another way, which brings us back to filtering the aquarium for at least 24 hours. Most faucet-end water purifiers sold to improve the taste of tap water are charged with activated carbon. Finally, adding sodium thiosulfate to tap water, immediately inactivates chlorine. Sodium thiosulfate is sold under a variety of trade names. When purchased, follow the dosing instructions as labeled on the bottle. In some municipal water plants, ammonia is added to react with chlorine to form chloramine. This can also be a problem for aquariums & can also be removed with the addition of sodium thiosulfate to the water.

It is recommended that you add aquarium salt ( uniodized table salt or kosher salt ) to the aquarium. The general rule is 1 tablespoon per every 5 gallons of aquarium water. The addition of this salt IS for freshwater (saltwater salt mixture is different & can be bought in pet shops), you can also use this salt for brackish water, which would be at the ratio of 1 teaspoon per every 1 gallon of water. Please keep in mind that salt does not evaporate, so you must keep track of the levels of salt added to the aquarium. When the time comes for water changes, you must replace only the salt that you removed with the change. Some species

of fish do not prefer the addition of salt to the water, so research the fish you wish to keep & determine if you will even need to add the salt.

The pH value of water may differ in various parts of the country, & in some cases the water may require some adjustment before adding fish. Fish can generally tolerate a wide range of pH without problems. A pH of 6.5 to 7.8 for most species of fish is an acceptable range for maintenance of optimal health. You may want to research the species you would like to keep, before you buy them so that you can set the pH to required range for that species. If in doubt, keep the pH at true neutral (7.0).

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