

## Establishing Biological Filtration

Biological filtration is simply the action of beneficial bacteria in the aquarium consuming fish waste. Fish release urine, ammonia, and solid waste into the aquarium water. This fish waste can build up, especially during the first few weeks of starting a new aquarium. Fortunately beneficial bacteria convert fish waste into harmless nitrate. This bacteria takes time to develop. If too many fish or too much food are added at one time, the ammonia and nitrite levels will reach poisonous levels. To help start the process, we suggest adding beneficial bacteria to the aquarium.

Ammonia and nitrite levels should be tested twice a week after the first fish are added. The levels will rise and fall as the biological filter develops. As the biological filter grows it will convert the ammonia to nitrite and then to nitrate. Once the biological filter is established, ammonia and nitrite will remain at zero levels. It usually takes about four weeks for the biological filter to become established.

A few days after fish are added to the aquarium, the water may turn cloudy. This is normal and happens to most new aquariums. In a few days, the cloud will disappear as the aquarium becomes established. Make sure to only use the light in your aquarium a maximum of 12 hours per day, as it will cause algae to develop.

As soon as the biological filter is established, more fish can be added. Add only one or two fish per week since the biological filter will need to multiply to consume the additional fish waste.

## Feeding Your Fish

It is best to feed your fish only enough food that it can eat in five minutes. If food is sitting on the bottom of the aquarium or bowl, the fish have been overfed. Overfeeding promotes fish waste (ammonia) to build up to a harmful level, and is one of the major causes of fish loss.

## Cleaning Your Aquarium

Dirty aquariums not only look bad, they are also unhealthy for fish. By following a few simple maintenance steps your aquarium will always look beautiful.

### Weekly

Test the pH, ammonia, and nitrite levels. Regular water testing is the only way to monitor water quality in the aquarium. The pH level may shift over time and require an adjustment. The ammonia and nitrite levels should always be zero.

### Monthly

Clean the filter and add new Activated Carbon. Change about 20% of the water. Partial water changes remove excess pollutants and algae-promoting nutrients. The easiest way to make a partial water change is with a gravel siphon. Gravel siphons remove debris from the gravel while removing unwanted pollutants from the aquarium. When adding new water, be sure to use a water conditioner and test the pH level before adding to the aquarium. Clean the inside of the aquarium with an algae scraper.

**Do right by your pet.**

**Do right by our environment.**

**Don't release unwanted pets.**

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# Starting a Freshwater Aquarium



**Pet Industry Joint Advisory Council**  
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## Starting Your Aquarium

When starting a new aquarium, the first few weeks are always the most challenging. The three most common problems are making tap water safe for fish, adding fish too quickly, and overfeeding. With a little knowledge and guidance, these problems are easy to avoid. The following will provide the basic information necessary to have a successful aquarium.

## Selecting Your Aquarium

Your first decision is to select an aquarium. Available in a variety of sizes and shapes, a larger aquarium allows you to have a greater number of fish, more diversity, and keeps the water chemistry more stable because of the larger volume of water.

## The Equipment

You will need four major pieces of equipment.

**Heater.** Tropical fish require a steady water temperature of 76° to 78°F. Fluctuating water temperature stresses fish, making them more vulnerable to disease. High quality aquarium heaters minimize water temperature fluctuations. The heater wattage required will vary depending on the size of your aquarium.

**Filter.** Aquarium filters remove debris and harmful pollution while adding oxygen to the water. The larger the filter, the less often you will need to perform maintenance. Select a filter that has a good flow rate and a large area to hold filter media.

**Air Pump.** Air pumps create bubbles that agitate the water's surface, adding oxygen to the water.

**Hood.** The hood reduces water evaporation and minimizes the risk that the fish will jump out of the aquarium. Adding a light fixture to the hood will enhance your viewing experience.

## What Else Do I Need?

**Decorations.** Adding decorations to your aquarium provides a hiding place for your fish during times of stress. You should only use decorations, such as gravel, ornaments, and plants, designed for use with fish.

**Aquarium Cleaner.** Household cleaning products are harmful to fish so make sure you purchase aquarium cleaner.

**Water Conditioner.** Tap water can be full of dangerous chemicals that can harm your fish, such as chlorine and chloramines. These are poisonous to fish. Water conditioner will instantly neutralize the chemicals in tap water, making the water safe for your fish.

**Aquarium Salt.** Electrolytes are essential for the uptake of oxygen and release of carbon dioxide and ammonia through the gills. Without the proper amount of electrolytes, fish cannot breathe properly, making them more vulnerable to disease. Aquarium salt adds the important electrolytes fish need to help them breathe easier and remain active.

**pH Test Kit.** Tap water may not have the right pH for tropical fish. A range of 6.5 to 7.5 is acceptable for a community aquarium. Research the pH level of the fish you wish to include in your aquarium to ensure they will thrive. In addition to a pH test kit, make sure to purchase products to adjust the pH level.

And of course, don't forget the fish food!

## Choosing Your Fish

When choosing fish for your freshwater aquarium, consider the following:

1. What do they fish eat?
2. How big do the fish get?
3. Does the fish want friends?

## Adding Fish to an Aquarium

Once your aquarium has been cleaned, decorations added, water conditioned, pH levels tested and/or adjusted, and the correct temperature has been established, you are ready to add your fish. Only add a couple of fish until the natural balance of the tank has been established. Add fish in order of least aggressive to most aggressive.

Whenever fish are netted and handled, their protective slime coat is rubbed off. When adding fish to any aquarium, be sure to add additional water conditioner to help relieve stress. The best method to add new fish is to float the unopened bag of fish in their new home for 10 minutes to allow the fish to adjust to the water temperature. Then, open the bag and gently release the fish into their new home. The bag water may contain fish waste (ammonia), so try to avoid adding the bag water to the aquarium.