



Your first decision is whether you want a fish aquarium or reef aquarium. A reef aquarium is primarily for invertebrates (corals, anemones and crustaceans). While each aquarium type is beautiful, the equipment and setup for a reef tank is different. If you decide to create a reef aquarium, please request a copy of *Starting a Saltwater Reef Aquarium*.

Selecting Your Aquarium

Your next decision is selecting an aquarium. Available in a variety of sizes and shapes, a larger aquarium allows you to have more fish, as well as greater diversity. The greater water volume helps stabilize water chemistry in the tank, which is much better for the health of your animals.

The Equipment

Heater. Tropical fish require a steady water temperature of 72-78°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. Suspended debris is trapped by pumping water through mesh filters (mechanical filters), while harmful dissolved pollution is removed via chemical (activated carbon) or biological processes. Pumping water through

filters adds oxygen to the tank through aeration. The larger the filter, the less often you will need to perform maintenance. Select a pump with a flow rate to match your tank volume.

Hood. A hood reduces evaporation and minimizes the risk that fish will jump out of the aquarium. Adding a light fixture to the hood will enhance your viewing experience. Make sure to use the light no more than 12 hours per day to minimize algae growth.

Protein Skimmer. A protein skimmer improves water quality by removing organic compounds. Make sure to purchase the correct size skimmer for your aquarium.

What Else Do I Need?

Decorations. Adding decorations to your aquarium provides a hiding place for your fish during times of stress. Decorations (such as sand, ornaments, and rocks) should be designed for use with saltwater fish aquariums.

Water Conditioner. Tap water may be treated with chemicals that can harm your fish, such as chlorine and chloramines. A water conditioner will neutralize chemicals in tap water, making the water safe for your fish. Some conditioners also neutralize metals such as copper, lead and zinc; your pet shop can provide advice on the correct conditioner.

Aquarium Cleaner. Purchase a product for scrubbing aquariums; avoid household cleaning products which can be harmful to fish.

Hydrometer. A hydrometer measures specific gravity, an indicator of the salt level of the water in the aquarium. Saltwater aquariums

should have a specific gravity of 1.020 to 1.025. Proper salt levels are necessary to maintain body chemistry of marine fish, helping to prevent disease. Synthetic sea salts are readily available and easy to mix.

pH Test Kit. Tap water may not have the right pH for tropical fish. Most saltwater fish thrive at a pH of 8.1—8.4. In addition to a pH test kit, make sure to purchase products to adjust the pH level.

Ammonia, Nitrite and Nitrate Test Kits. These kits are essential to measure the level of these harmful compounds when starting a saltwater aquarium. (see below)

Establishing Biological Filtration

Biological filtration is the action of bacteria in the aquarium consuming fish waste. These waste products can lead to a build-up of ammonia, which is very toxic. Fortunately, beneficial bacteria convert ammonia to nitrite and then to relatively harmless nitrate. However, bacteria take several weeks to develop and you should test your water before adding fish.

There are two ways to start your biological filter. You can buy beneficial bacteria at your pet store to “jump start” their growth. Another option is to add a few hardy fish every few weeks until the filter is established; the waste from these fish will encourage the growth of beneficial bacteria.

This information is designed as a basic guide. There are several books and online resources available which provide in-depth information on saltwater aquariums and their care.

With either method of starting your biological filter, ammonia, nitrite and nitrate levels should be tested twice a week. Ammonia and nitrite levels will rise and later fall as the biological filter develops. At first, the water may turn cloudy. This is normal and happens to most new aquariums. In a few days, the cloud will disappear as the filter becomes established.

Once the biological filter is established, ammonia and nitrite should remain at 0, and nitrate levels should be less than 40 mg/l (ppm) in a fish-only tank. It usually takes about four to six weeks for the biological filter to become established.

After the biological filter is established, you can begin to add your fish of choice. Avoid introducing too many fish at one time because the beneficial bacteria need time to multiply to consume the additional ammonia.

Adding Your Fish

After ammonia and nitrite levels consistently stay at zero levels, nitrate is less than 40 mg/l, aquarium pH is within the correct range, and the temperature has stabilized, you are ready to add your fish.

When choosing fish for your tank, investigate how long they will live and how large they will grow; make sure your tank is large enough. Some aggressive or territorial fishes are not compatible with all tank mates. Check with your store or online about the compatibility of the fish you have in mind. Only add a few fish

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until the natural balance of the tank has been established. Add fish in order of least aggressive to most aggressive.

When fish are netted and handled, their protective slime coat may be rubbed off. Add water conditioner to help relieve stress when introducing new fish. The best method to add new fish is to float the unopened bag of fish in the aquarium until the water temperature in the bag matches the tank's (about 15-20 minutes). Then, open the bag and gently release the fish into their new home. The bag water may contain fish waste (ammonia); avoid adding the bag water to the aquarium.

Feeding Your Fish

Be careful not to overfeed your fish; all the food should be eaten within 5 minutes. If food remains on the bottom of the aquarium, the fish have been overfed, which promotes fish waste that may cause ammonia to build up to a harmful level and is one of the major causes of fish loss.

Maintaining 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. To help keep algae under control, select some fish or snails that prefer algae as their primary food source.

Weekly

Test the pH, ammonia, nitrite, nitrate and salt levels. The pH level may shift over time and require an adjustment. The ammonia and nitrite levels should always be zero; nitrate should not exceed 40 mg/l (ppm). Add non-chlorinated fresh water to make up for evaporation.

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 while adding alkalinity and replenishing important fish micro-nutrients (that are removed by protein skimmers). The easiest way to make a partial water change is with a gravel siphon, which removes debris from the substrate. When adding new water, be sure it is the same temperature as the aquarium's. Also use a water conditioner and add salt to re-establish the proper salt level. Test the pH level before adding new fish to the aquarium. Clean the inside of the aquarium with an algae scraper.

Avoiding Human Illness

Although rare, aquatic life may infect humans with bacterial diseases, such as mycobacteriosis or salmonellosis. Fortunately, taking a few simple precautions will protect you from getting sick from your aquatic pets. Make sure that everyone handling aquatic life, including children, follows these precautions:

- ✓ Always wash your hands thoroughly with soap and water after handling aquatic life or material (including aquarium water) that had contact with aquatic life.
- ✓ Avoid contact with the water and tank if there are wounds on your hands or arms.
- ✓ Never start a siphon by mouth.
- ✓ Never use food-preparation areas to clean aquatic life habitats or anything in their habitats. If you clean the habitat in the bathroom, disinfect the area completely afterwards.

