

AQUARIUM SUBSTRATES

Appearance is often the biggest factor for people choosing an aquarium substrate. However, aquarium substrate has various functions and should be chosen according to the type of tank (freshwater, planted, fish-only, reef, etc). Considering both look and function can result in a healthier fish tank while still achieving visual harmony.



Glass Bottom

The simplest solution when selecting an aquarium substrate is to leave it out altogether. Bare bottomed aquariums are cheaper to setup, easier to clean and offer fish a little more space to swim. Such fish tanks are often favored by fish breeders to maximize production efficiency. Many marine aquariums will feature a glass bottom tank without any substrate, only live rock.

Aquarium Gravel

The most popular aquarium substrate, Aquarium Gravel is usually chosen for its smooth edges and inert chemical nature. The gravel size is also important. 3 to 4mm is an excellent size to allow adequate water flow through the substrate. In doing so the water can be cleaned through biological filtration as beneficial bacteria feed on dissolved fish wastes. Gravel larger than 4mm will allow sufficient water flow, but cannot provide the surface area offered by smaller grades.

When choosing a gravel color, keep in mind that it will hide sunken debris more successfully when it contains a number of different shades. Regular maintenance by vacuuming gravel is a must in order to remove uneaten food particles.

Aquarium Sand

Sand can provide a more natural habitat for many species and bottom dwellers. Sand as an aquarium substrate is useful with bottom feeding fish with delicate barbells.

The biggest problem with sand as an aquarium substrate is its fine diameter. When placed thickly on the aquarium floor, areas can form where there is no water circulation. In these anaerobic conditions, no biological filtration can be achieved. If sand is the aquarium substrate you choose, be sure to use it in a thinner layer to reduce this problem.

In combination with a good filtration system, sand can be the cleanest substrate of all. Sand will compact itself and food particles can not penetrate the surface. A strong filtration system will simply remove the particles from the surface. In many cases, the filter intake tube will have to be adjusted in order to avoid the sand being pulled inside the filter. With good filtration in place, the sand does not have to be cleaned as frequently as compared to common aquarium gravel.

Planted Tanks

The substrate for a planted tank needs to be able to store and provide nutrients for the plants through their root system. A 2-layer substrate helps plants establish a good root system. A 1" to 2" bottom layer of laterite or vermiculite, topped with 2" of aquarium gravel or sand, will provide an anchor for roots and needed nutrients for plant growth

Marine and Reef Tanks

Arragonite, Crushed Coral and Coral Sand provide marine environments with needed calcium and magnesium which will buffer the pH to higher levels. Coral and Arragonite are composed of calcium carbonate which steadily dissolves in the aquarium water to buffer and to hold up the pH. As the substrate dissolves, it counteracts the acidifying processes associated with decay of food and the release of fish waste. This pH buffering quality makes coral sand a very practical aquarium substrate for fish that enjoy hard water and a higher pH. Live rock and live sand provide marine tanks the good bacteria needed to breakdown ammonia and nitrates.

ANIMART's Wet & Wild staff can help you choose the ideal substrate and filtration combination to provide healthy, natural environment that appeal to both you and your fish.