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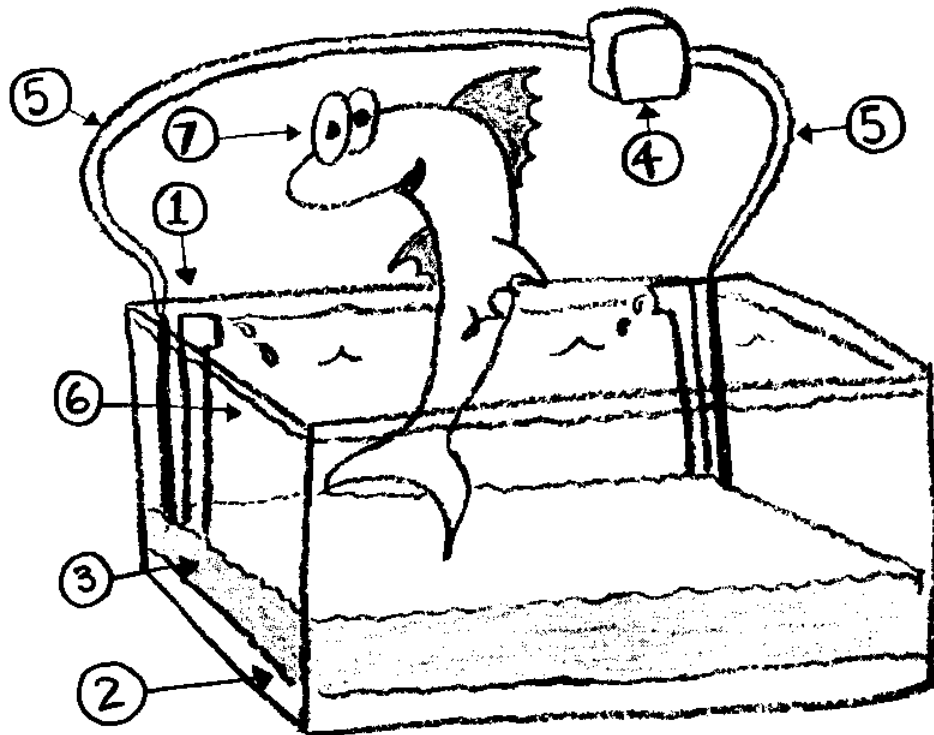
How To

Set Up and Maintain A Saltwater Aquarium



Developed by Russell Miget, Area Marine Fisheries Specialist, Marine Advisory Service, a joint project of the Texas A&M University Sea Grant College Program and the Texas Agricultural Extension Service

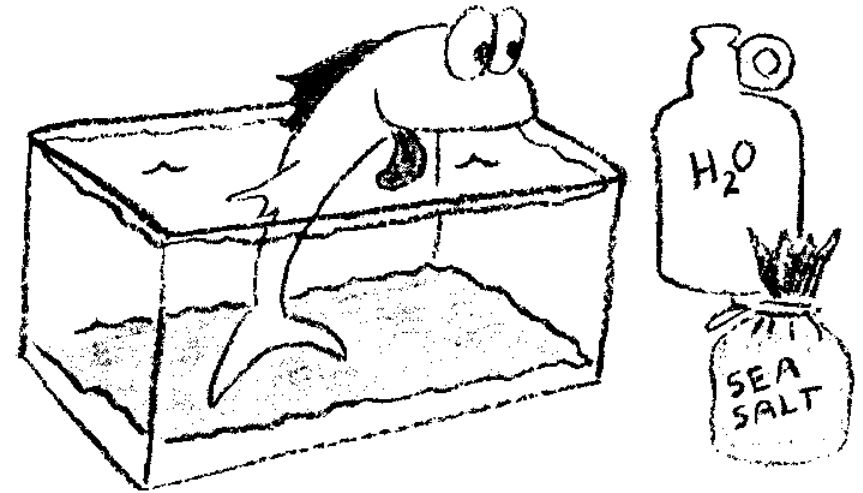
What do I need to start a saltwater aquarium?



1. Glass aquarium--long and narrow
2. Undergravel filter with two vertical 3/4" airstems
3. Filter bed--3" of crushed coral works best
4. Heavy duty air pump with two air outlets
5. Airline tubing (airstones are not necessary if airlift principle is used)
6. Natural or synthetic seawater--NOT table salt
7. Live saltwater animals
8. Hydrometer/thermometer

You must have an undergravel filter system which covers the bottom of the aquarium. One vertical air outlet and one vertical water outlet should be placed in each back corner of the aquarium. Connect each vertical air outlet to one air pump outlet with a piece of airline tubing.

I live in Dallas. How do I get saltwater and keep it salty?



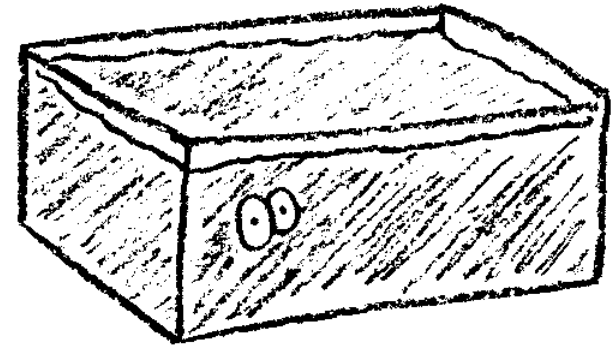
Several brands of synthetic sea salts are available in dry form at pet shops. Mix with tap water to desired salinity (follow package directions). For best results, buy an inexpensive hydrometer with a color band. The salinity level is correct when the water level appears to be in the hydrometer's color band. Add more synthetic sea salts whenever the water level drops below this color band. Water will evaporate if you do not have a cover on your aquarium, and you may need to add dechlorinated tap water every week or so. Water can be dechlorinated by allowing it to stand in a bucket for 24 hours. One-fourth of the water should be replaced with synthetic seawater every two or three months to replace vital trace elements required by the saltwater organisms.

Do saltwater animals require a special food?



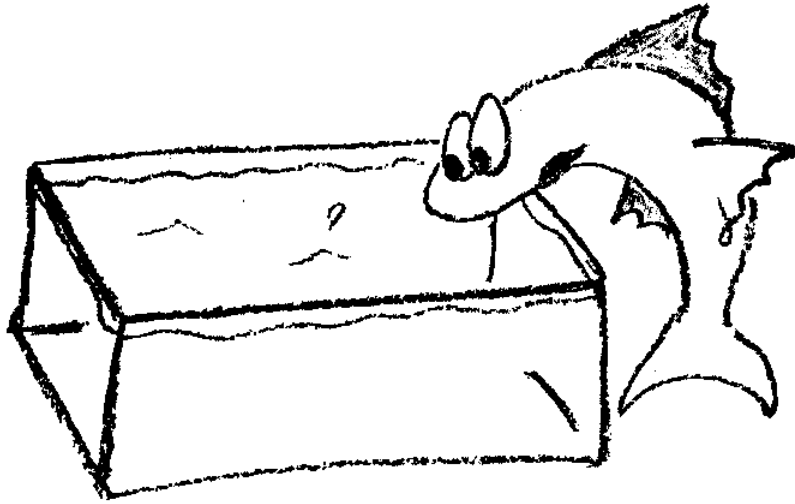
Although many saltwater animals will eat commercial flake food, most seem to prefer shrimp and squid. These can be purchased frozen at pet shops, grocery stores or bait stands. Feed your animals only once every two or three days. **DO NOT OVERFEED.** Uneaten food is the best indication of overfeeding. While most fish and invertebrates will eat dead food, seahorses and pipefish prefer live brine shrimp. Ask your pet shop owner or your science teacher how to grow these in a gallon jar.

Do I need an outside filter to keep the water clean?



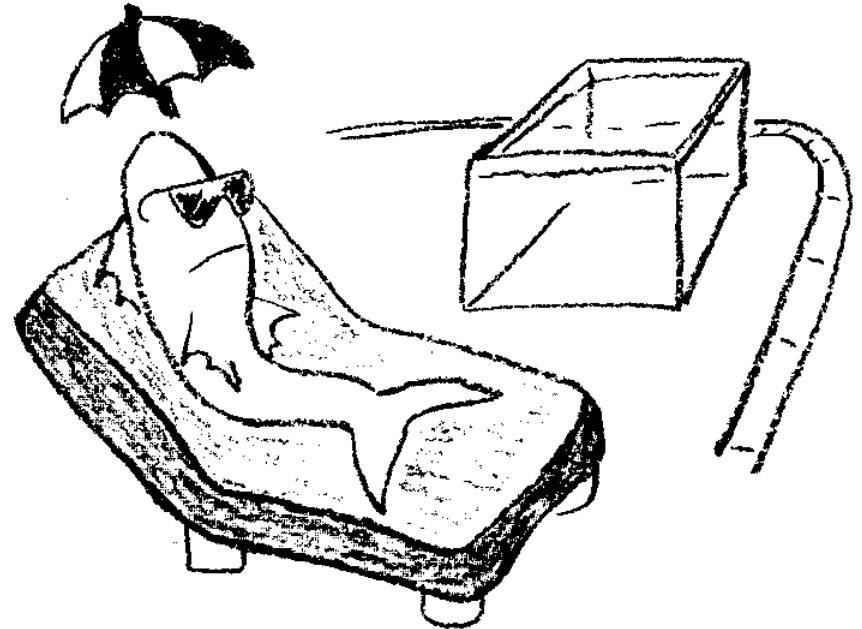
No. An undergravel filter is the most efficient filtration system available for the price. Ultra-violet lights, ozone generators or power filters are not necessary unless the aquarium is overcrowded. It is usually less expensive, and definitely safer, to buy a second aquarium for more animals than to try to maintain an overcrowded aquarium with accessory devices. If you live in Texas (or another Gulf Coast state) and you use animals taken directly from the Gulf, you also do not need a heater for your aquarium. Your animals will do just fine at room temperature. Animals bought at pet shops may be from various locations, however, so you will need a heater.

Do I need plants in my aquarium?



No. Crabs and other sea animals will eat the plant material. All you need are crushed coral and perhaps a few large rocks or shells for animals to hide in or under.

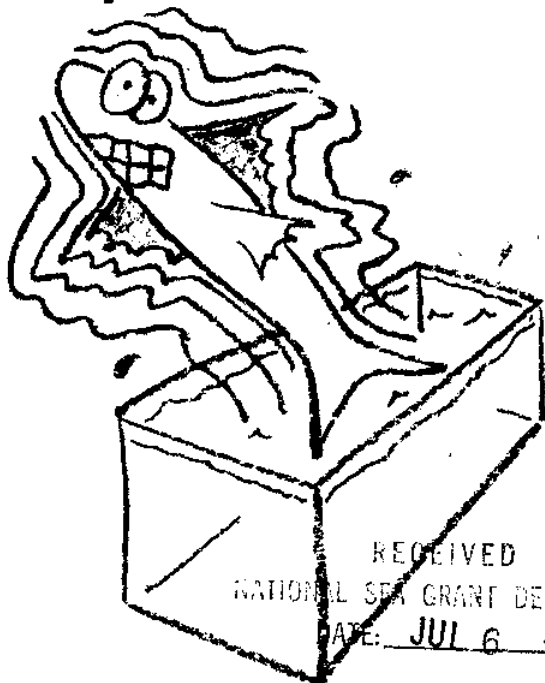
When can I add fish to my saltwater aquarium?



A saltwater aquarium should "condition" for at least five or six weeks before fish are introduced to allow the proper bacteria to develop in the filter bed. The bacteria are necessary to eliminate waste materials. Do not try to clean this filter bed (even if it looks dirty) or you must re-condition your aquarium. The conditioning time can be cut considerably by:

- Immediately introducing a few hardy animals such as hermit or stone crabs, snails or sea anemones. **CAUTION:** Do not add a blue crab; it will eat the other organisms.
- Using "conditioned" crushed coral filter bed material from an established saltwater aquarium. This filter bed should be at least 3" deep.

What are some of the problems I might have with my saltwater aquarium? Are diseases like 'Ich' a serious problem?



Loss of fish in a saltwater aquarium usually is due to imbalanced water rather than disease. Seawater imbalance (low alkalinity, high ammonia and nitrites) usually occurs because of improper filter material, improper depth of crushed coral, overcrowding or overfeeding. You should try not to put your aquarium in direct sunlight because this will cause an excessive algae growth on the glass. If at all possible, keep the aquarium in indirect light.

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