AQUARIUMS

Aquariums can be a great gift idea. They can help a young one develop a sense of responsibility, provide visual stimulation for a shut in as well as provide an opportunity to observe an ecosystem on a small, personal scale. Some easy ideas can help the gift giver and the recipient have a happy holiday.

There are a few considerations before you jump into the aquarium hobby. First, think about how much time and space you can dedicate to the aquarium. Fish are living things and need food, water and space like all animals. They need food on a regular basis. They need clean water and a clean room—their tank.

Aquariums are examples of a miniature world. Some of the same processes that happen in natural systems like rain forests and the Everglades happen in aquariums. Fish eat, recycle the food and eat some more. They recycle fish food through their digestive system but also through their gills and produce ammonia as a waste product. Ammonia contains nitrogen.

Naturally occurring bacteria on the fish's body eventually grow on the sides of the tank and in the bottom materials such as sand and gravel. They convert ammonia into a harmless type of nitrogen called nitrate. It is important not to clean an aquarium too well or you wash out the good bacteria that are helping keep the water clear and clean.

These bacteria need oxygen in order to thrive while they detoxify the harmful ammonia type nitrogen to nitrate. Nitrate is a good nutrient for plant growth and we add nitrogen to our lawns, gardens and crops in the form of fertilizer to help with leafy growth. But you can have too much of a good thing.

Many people like plants in the aquarium and fish waste helps fertilize them naturally. Algae may be an unwanted plant that makes the walls of the tank and decorations turn green, but it is also a sign that there are lots of nutrients and plenty of light. Several solutions include turning the lights off, moving the aquarium away from the light source, changing the water more often and cut back on feeding.

In a natural ecosystem, we cannot turn off the lights but we can reduce the amount of nutrients we feed the system. It is important that we don’t overfertilize our yards or fertilize before a storm that will wash the nutrients, including nitrogen, into ponds, ditches or lakes that are downstream.

Low oxygen conditions can be harmful to many fish. In natural systems, some oxygen naturally moves from air into the surface of the water. Fast moving water that flows over rocks and waterfalls provides natural aeration resulting in dissolved oxygen (DO). Wind and wave action also stir the water and add oxygen. Fish gills are special adaptations that allow them to extract DO from the water. Some fish have special adaptations so they can survive low oxygen conditions. Some can use air from the water surface when DO levels are low.

In an aquarium, you provide the oxygen by using aerators. In home ponds, you can use fountains or bubblers to increase dissolved oxygen in the water.

Fish bowls are popular in small spaces. However, there are some challenges as they change temperature rapidly which is stressful for many types of fish. Place small fish bowls and aquariums where they are away from heat, cold and drafts such as occur near doorways, air conditioning vents. Also be aware of heat from electronics such as computers and home entertainment equipment.

Fish bowls usually do not have aerators so be sure that you choose a fish that can tolerate the drastic conditions of low oxygen as well as rapid temperature changes.

One suggestion for gift givers is to provide gift certificates and let the recipient do some research before
they make their purchase. Aquarium shop owners will help you learn about water quality testing and select fish that can get along in the size tank you select. Enjoy the beauty of these tropical beauties but realize you become their caregiver and must help them take care of their ecosystem.

UF/IFAS Osceola County 4-H is one way to learn more about fish and aquariums. Youth and adult volunteers can learn together. Call Joy Borgman for more information on the aquarium project and to get information on the special aquarium workshop coming up later this month. Call 321-697-3000.

Eleanor Foerste
Natural Resources Agent
Osceola County Extension/University of Florida
1921 Kissimmee Valley Lane
Kissimmee, FL 34744
(321) 697-3000
Fax (321) 697-3010
efoe@osceola.org
osceola.ifas.ufl.edu
Date: December 14th, 2003