

Setting Up an Aquarium

First you should purchase an aquarium. One can be purchased from any place that sells fish supplies. They can range from many styles and sizes, varying in price. Buy as large a one as you have room for, and as good a one as you can afford, for the more space that is given to the fish, the more will be the enjoyment of watching their constant movement, the greater will be the opportunity for artistic planting. Having bought an aquarium, fill it and let the water stand for a few days to be sure the tank does not leak. (If it does, there is cement silicone for aquariums sold for the purpose of patching up small leaks. Sometimes just carrying the tank home from the store will loosen a joint of glass and metal and it must be repaired before the tank can be used.) Then siphon off the water, be sure the aquarium is perfectly clean, and you are ready to go to work.

The first step is usually to put gravel in the bottom of the aquarium. Coarse, light-colored gravel is generally used, and may be bought from almost any place that sells fish supplies. If you collect the gravel yourself, be sure to wash it well in running water to remove any impurities it might have before you put it in the aquarium. Then cover the bottom of the tank with gravel to a depth of between one and two inches, pour in three to four inches of water, and let the gravel settle and the water clear before you do any planting.

Some aquatic plants need more nourishment than is furnished by the gravel and the fish, and therefore a layer of soil is sometimes put in the tank and then covered with gravel. This arrangement has its disadvantages; one of them being that certain fish burrow about in the gravel, and if they stir up mud underneath it the clarity of the water is destroyed. It is much better to set the plants that need humus in a small pot, which has a layer of earth, a layer of gravel and fine pebbles over the top to prevent the subsoil from being disturbed.

Elodea, Vallisneria and Cabomba are among the rooted varieties of water plants. To set the plants, spread the roots carefully apart and cover them with gravel. Sometimes they need to be weighted with a small stone to keep them in place until they commence to grow. The lead weight often found on bunches of plants bought from dealers should always be removed. Only the actual roots should be covered, the crown remaining clear of the gravel. If the plants are set in place before the aquarium is filled to the top, it would be easier to anchor them, not only because they are easier to reach, but because there is less tendency for them to float to the top.

Once they are set in place, fill the aquarium. The simplest way to do this without having the stream of water that is poured in stir up the gravel and uproot the plants, is to put a piece of newspaper in and pour the water gently onto that. The paper is strong enough to break the force of the stream of water and protect the planting. Again the aquarium should be allowed to stand for 24-48 hours before the fish are put in, so that the water may attain room-temperature and so that harmful gases in it (chlorine, for instance, in some city water) may dissipate.

After the fish are placed in the aquarium it should be covered with a sheet of glass or with one of the roof-like lids used when an electric light is installed over the tank. This is for various reasons: it prevents the fish from jumping out, keeps out dust, lessens evaporation and helps to keep a more even temperature in the water. The fish are in no danger of smothering when kept covered. The daily removal of the cover for feeding allows enough fresh air to enter to take care of surface absorption, and of course the plants supply much of the needed oxygen.

Setting Up an Aquarium (cont)

Teaching Fish (Reprinted from National Science Teachers Association, Science and Children: February, 1976.Pp.27.

Can you train a goldfish? What do you need to make a goldfish respond in a certain way? Is a goldfish color-blind? Can a goldfish hear?

Steve A. Sayre and R. Neal Phelps, both assistant professors at Wayne State College, Wayne, Nebraska, believe elementary school students can successfully answer these questions and others by conditioning goldfish. In a relatively uncomplicated laboratory classroom environment a teacher can provide the means for students to find the answers by scientific processes. The steps are relatively easy, and the activity is not an expensive one.

Obtain one goldfish bowl (a bottle cutter and a gallon jug can serve as well) for each group of four students in your class. Fill the vessel with tap water that has been dechlorinated by exposure to air overnight or by a dechlorination tablet available at any aquarium supply store. Place several goldfish in each bowl of water. Leave the fish in the plastic bag they were placed in at the store for 15 minutes so they may adjust to the temperature difference. (Ask the children why this is necessary.) Students may feed the fish daily for one-week period. This time period allows the fish to adjust to their new environment.

After the one-week period each group of students should place their fish bowl in an isolation box (a large cardboard box). There the fish won't be distracted by other stimuli.

Have each group of four students make a large cylinder that will fit around the fish bowl. Each group should make their cylinder from a different color of paper. Just before the fish are fed, have the students place the large cylinder around the fish bowl. Sprinkle a small amount of fish food on the surface of the water. Use only enough food to last about one minute. After feeding remove the cylinder. For the next two weeks place the colored cylinder around the fish bowl before feeding the fish. Observe how the fish come to the top of the water to feed.

After two weeks of feeding the fish this way, using the colored cylinder, don't feed them one day. The next day place the colored cylinder around the bowl. What do the children think the fish will do?

The children may feed the fish without the colored cylinder around the bowl. After a week of not using the colored cylinder at feeding time, place the cylinder around the bowl. What happens this time? Do fish forget?

What happens when different groups of students switch colored cylinders? Can guppies be trained?

What else can you do with your fish? Does the fish's hearing or seeing cause it to dive to the bottom?

What other animals can be conditioned?