



Aquarium Fish



Fish are animals with backbones that live in water throughout their lives. They do not have lungs, but breathe by gills. In place of legs and arms, they have fins. More than 30,000 kinds of fish are found in oceans, lakes, and streams.

Fish make excellent pets because they are inexpensive to feed, easy to care for, can be safely left alone for short periods of time, and are fun to watch. There are many different colours, sizes and shapes. Each has its own special features that can make it an interesting pet.

Goldfish come in several shapes and colours. Many will grow quite large if kept in a large aquarium or outdoor pond. Goldfish are the most adaptable of all fishes. They can adjust to a wide range of temperatures and will eat a variety of foods.

Most tropical fish are small, and the variety of colours and shapes is almost endless. Many different tropical fishes plus exotic plants can grow together in an aquarium.

Salt water fish are among nature's most colourful creatures. They are not a good choice for beginners. You should only consider a "fresh water aquarium" until you are very experienced at keeping aquarium fish.

Selection

When you visit the pet store, you will find that there are many different types of aquarium fish. Some are not too expensive and others are very expensive (over \$10 - \$20 each). When you start out, you should not buy the very expensive kinds of fish. You should also decide if you want one kind of fish or several different kinds.

You will probably want more than one fish to start with, but don't overcrowd your aquarium. A good rule of thumb is one fish for each gallon of water.

An aquarium with more than one kind of fish is called a "community aquarium".

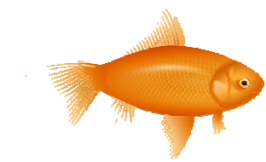
It is very important to choose fish that get along well with each other. Some fish like warmer water than others. Some live in salt water while others live in fresh water. Some like different food than others.



Choose fish of similar size and type. Some fish will eat other kinds of fish smaller than themselves. Some small fish will attack and bite the fins on larger fish until the large fish is badly injured.

It is quite hard to know which fish get along best (until you are an expert!). It is usually best to let the pet store owner recommend a few fish that you can keep together. You may also want to search for a local aquarium or tropical fish club.

If you want only one kind of fish, you might like some of the "live-bearing" fish like Guppies, Mollies or Swordtails. Buy a male and one or two females. They will probably give birth to very tiny baby fish in two or three months if conditions in the aquarium are right for breeding. It can be fun to watch the new babies grow up to be big fish.



Goldfish are hardier and easier to keep than tropicals.

Guppies are excellent for beginners. They are bright colored and multiply rapidly. The Zebra requires little oxygen and can thrive in a small tank. Other hardy and attractive species are Platyp, Neons, and Glow-light Tetras.

When you are thinking of getting an aquarium, go to a local pet store and discuss your plans with a salesperson. The salesperson can show you some different tanks and tell you how many and what kind of fish you should keep in the different sizes of tanks.

When you go to buy fish, choose a store which has clean looking aquariums. Do not buy fish from a tank which has any dead fish floating in the water. Do not buy fish from an aquarium which has living fish floating to the surface, sinking to the bottom or tilting to one side as they swim.

When you are bringing home your first new fish, they will be put into the tank together. FROM THEN ON, always quarantine new fish for about a week before you add them to your tank. This will prevent your healthy fish from catching a disease (if the new fish is carrying an illness). If the new fish is still healthy a week after bringing it home, it can go into the aquarium. Most tropical fish owners keep a small tank as a quarantine tank or "recovery tank" for fish that are ill.

Facilities

The Aquarium

Fish should be housed in a large square or rectangular glass aquarium so they will have adequate air surface for oxygenation. The rule one fish for each gallon of water may be modified somewhat, according to the kinds of fish, plants, and equipment you use for aeration.

Aquariums come in a wide variety of sizes. They are usually measured in gallons or liters rather than length and width. The gallon size refers to the amount of water it will hold. A 5 gallon aquarium will hold 5 gallons of water, a 10 gallon will hold 10 gallons of water. You will probably choose an aquarium which is about 5 to 10 gallons.



When you are thinking of getting an aquarium, go to a local pet store and discuss your plans with a salesperson. The salesperson can show you some different tanks and tell you how many and what kind of fish you could keep in the different sizes of tanks. Many times, pet stores will have "aquarium kits" or "packages" which include an aquarium and all of the equipment needed to set the aquarium up (see "Equipment").

Equipment

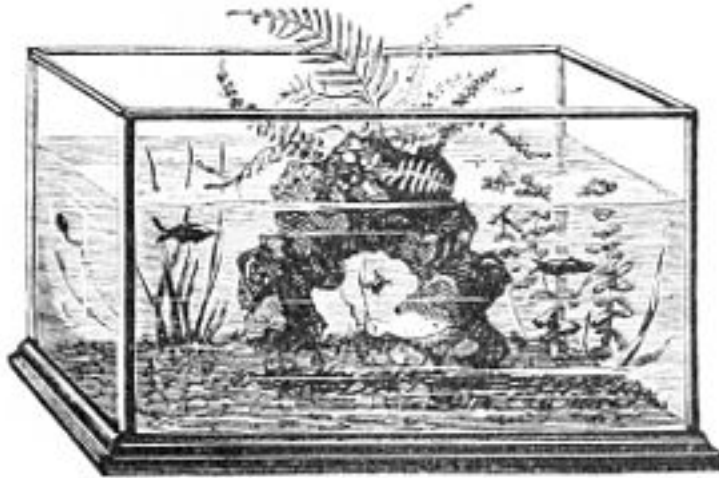
Once you decide on the size of aquarium, you may need to buy a variety of equipment for it.

- An aerator and filter system- the aerator will add fresh air into the water in the aquarium, while the filter system will remove dirt and debris from the water. You will need a pump to run the aerator and filter. You will also need filter charcoal and filter wool to put into the filter. There are many different types of filters and aerators available. Your pet store can probably recommend the best kind for the aquarium you have chosen.
- A heater - to keep the aquarium water fairly warm (approx. 24°C/75°F).
- A hood or cover with a light - Aquariums covered with a hood with a light will make your fish more colorful looking. A hood will also:
 - prevent water from evaporating so quickly;
 - help to keep the water temperature constant;
 - prevent fish from jumping out of the aquarium and dying without water.
- Thermometer - You will need an aquarium thermometer so that you can check the temperature of the water each day. Leave the thermometer in the water at all times.
- Siphon - A siphon is a tube which is used to suction water from the aquarium. Many siphons have a little squeezable section which starts the water flowing through the siphon.

Other things which you will probably want for your aquarium:

- Gravel for the bottom: Aquarium gravel comes in many colours and sizes of stone. Avoid large stones which will trap pockets of uneaten fish food and waste (this will pollute the water). Very tiny stones will plug up "under gravel filter" systems. Wash the gravel to remove dust before putting it in your aquarium. Put the gravel into a bucket and fill it with water. Use a stick to stir the gravel around quickly. Pour off the water when it becomes murky. Refill the bucket and wash again. You may have to do this a few times until the water is clear after the gravel is stirred. Mix the gravel with oyster shell and put it into your aquarium. Slope the gravel so that it is about twice as deep at the back as it is at the front. Gravel should be about 25 mm. (1 inch) deep at the front and about 65 mm. (2 1/2 inches) deep at the back.
- Rocks or coral - It is safest to buy these at the pet store. Many pieces of coral which may be bought as ornaments have been treated with chemicals to bleach them. They will poison your fish after being in the water for a while. Some rocks change the minerals in the aquarium water and cause stains on equipment. Rocks from a stream can carry disease.
- Dip net - You will want a dip net to catch your fish when necessary. Do not catch your fish with your hand. You can damage the fish very easily with your hands.
- Plants - help to put extra air into the water, provide a safe place for fish to rest and make an aquarium much nicer to look at. It is usually good to pick about 3 or 4 different plants for the aquarium. Before you put new plants into your aquarium, wash them in lukewarm water with a few drops of hydrogen peroxide (let them sit in this for a few minutes). Plants should be planted in the aquarium gravel so that the roots are spread out and well covered, BUT be careful not to plant them too deeply. Just the roots should be below the gravel. Make a hole that is much larger than the roots. Hold the plant in the hole with the roots spread out. Drop gravel (a little at a time) over the roots until the gravel is built up level with the gravel in the rest of the aquarium.

Stores may also have aquarium kits or packages that include an aquarium and all the equipment needed to get started. Be a smart shopper and do a cost comparison before making your purchase.



Setting up Your Aquarium

When you go to buy your aquarium, do not buy your fish at the same time. It will take a few days to get everything set-up and working properly in the aquarium. Your fish can't be added to the aquarium until everything is right.

- Begin by washing your aquarium. You can wash it using warm water with a little table salt dissolved in it. Wash the aquarium well and then rinse it out two or three times with clear tap water.
- If you will be using an "under gravel filter", this should be put in place next. There are usually tubes at each of the back corners (for the aerators) and these should be put in place. Put the washed gravel in. (It goes on top of the filter OR right on the bottom of the aquarium if you are using another kind of filter system). The gravel should have been washed as explained in the "Equipment" section.
- Add water to the tank. Start with about 30 centimeters of water.
- Arrange the gravel in a sloping shape so that it is deeper at the back than at the front.
- Put your plants into place in the gravel (as explained before).
- Slowly add tap water to the tank trying not to disturb the gravel and plants. Fill the aquarium up to a level about 10 centimeters from the top. Because you will leave the full aquarium sitting for a few days, it does not matter if the water is chlorinated (as found in most towns and cities).
- Put the thermometer in the water (some thermometers have little suction cups that hold them to the side of aquarium glass). Place the thermometer in a spot where it will be easy to see).
- Put the heater in place. Most heaters clip onto the top of the tank and have an element inside of a glass tube which hangs down into the water. You will have to read the instructions and learn how to adjust the heater.
- Put the lid onto the aquarium and leave it for a few days. Adjust the heater as needed until the water is at the right temperature for the fish.

When everything is ready, you may bring home your new fish. The pet store will put them in a plastic bag with some water. When you arrive home, place the plastic bags into the water in the aquarium. Leave the fish in the bags for 1 to 3 hours (this gives the fish a chance to adjust to the temperature change between the water in the bag and the water in the aquarium). After this,

undo the bags and let them tip over so that the fish can swim out of the bags. After they swim out, remove the bags.

New aquariums kill many tropical fish each year. Fish must be added to a new aquarium very slowly. Two small fish a week is enough. Adding a handful of gravel from a disease-free aquarium that has been in use for a while, will help to prepare a new aquarium for fish.

Feeding

Fish like to have a variety of foods. It is usually good to keep a few different types of food on hand. There are many "freeze-dried" foods available. Choose a kind of flakes, a crumbled kind, a freeze-dried cube, etc. to give variety. Fish also enjoy brine shrimp which can be hatched for them.

Never put too much food into an aquarium. Fish only need a tiny amount of food each day. You should sprinkle a tiny bit of food onto the surface of the water. Watch to see if the fish come to eat it. If they are hungry, they will swim up and start eating. You can then sprinkle a little more food into the water. A rule of thumb is to feed no more than the fish can eat in 5 minutes. If the fish are not very hungry, they will ignore the food and it will sink to the bottom (don't give them anymore food that day).

Fish need not be fed every day. You can go one or two days between feedings without hurting the fish. Always be careful not to overfeed the fish. Uneaten food sinks to the bottom and then goes bad. It will make the aquarium messy and pollute the water. It is a good idea to keep a couple of little scavenger fish such as catfish in the aquarium to help clean up food sitting on the bottom. Snails can be used, BUT they will multiply quickly and have been known to carry illnesses to humans so they are not recommended.

Fish also like to nibble on aquarium plants. Some plants well suited to your aquarium are Vallisneria, Sagittaria, Cabomba, Nitella, and Ludwigia. Plants supply oxygen, food, and hiding places for shy and young fish. This is why it is a good idea to have some plants in the tank.

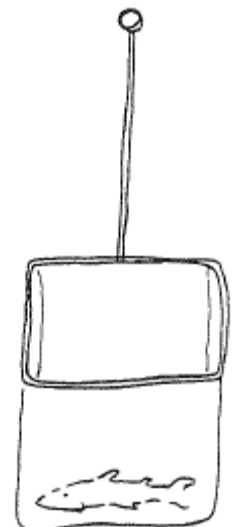
Management

Grooming: None necessary.

Handling

Always use a dip net when catching your fish to move them from one place to another. Be careful when using the net. Do not trap fish against the glass with the net (you will easily crush and injure them).

If you are moving the fish from one place to another, do so quickly. Be sure the fish is in the bottom of the net before it is lifted out of the water. Don't keep the fish out of the water for long. Always put your hand across the opening of the net after lifting it from the water. This will keep the fish from flipping out and ending up on the floor. Never keep the fish out of the water for more than a few seconds.



Exercise

None needed. Provide interesting things such as rocks, coral, plants, little glass figurines which the fish can swim around, through, under or over.

General Maintenance

Every few weeks you should siphon about one third of the water out of your aquarium. This water should be replaced with clean water which has been allowed to sit for about a week. Before you add it, be sure that this water is at about the same temperature as the water in your aquarium. If it is very different, the temperature will shock and kill your fish AND it might break the glass on the heater (which will also give an electric shock to your fish!). The water that you siphon should be the water at the bottom of the aquarium. By pointing the siphon tube at the gravel on the bottom, you will remove deposits of dirt and algae on the gravel. This will make your aquarium much cleaner.

You may also want to wash the glass on your aquarium. Most pet stores sell foam pads with handles which are used to slowly scrub the glass. Some also sell long handled scrapers to scrape off algae deposits on the glass. If the aquarium sits in the sun this will encourage algae growth.

Health Care

1. Feed properly (do not overfeed).
2. Do not overcrowd aquarium.
3. Keep water temperature around 24°C. This is very important in winter when rooms in your house may get quite cool.
4. Clean tank and replace milky or smelly water.
5. If fish are listless and refuse food, check for insufficient oxygen, low temperature, presence of chlorine, high acidity, or alkalinity. If you can find no fault, slowly raise the temperature to 27°C.
6. Remove sick fish into a small, shallow tank. Treat sick fish with 2 teaspoons of salt to every gallon of water for several days or use a sulfa medication available at pet store.
7. If you have an outbreak of illness, you may find that you can get medication from your pet store that will help your fish. Usually the medication is added to the water and the temperature of the tank is made warmer than usual for several days. This will sometimes stop the disease.
8. Remove sick, dead or dying fish from the aquarium as soon as you see them. This will help to prevent further spread of disease.
9. One common ailment known as "Ich" causes white spots on fish. Raise water temperature to 27°C and treat with prepared remedy.
10. Another common ailment is "Shimmier" which causes the fish to move sideways instead of forward. Raise water temperature to 27°C.
11. If diseases are widespread, remove all fish from aquarium. Sterilize with 10 drops of household chlorine bleach to each gallon of water. Let stand for 30 minutes. Rinse thoroughly and refill with fresh water, sand, and plants.
12. No vaccinations are necessary.
13. Prevention is most important in an aquarium. Try not to introduce diseases to the aquarium. Put new fish into quarantine in another tank until you know that they are healthy. Wash new plants very well in lukewarm water with a few drops of hydrogen peroxide (let them sit in this for a few minutes).
14. Place 5 ml of *non-iodized* salt per gallon of water to help prevent parasites.

There are many kinds of diseases that can attack your fish. Most diseases can be traced to a certain event such as a drop in temperature, poor maintenance , a wound or a new addition to the tank.

**Remember.* Fish are fragile creatures and they do die occasionally no matter how well you look after them. Many fish have short life spans and do not live for more than a year or two so some will die each year.

Breeding

Different species of fish have different breeding requirements.

Economics

Fish are an inexpensive pet. However, the equipment can get quite costly. Aquarium fish that multiply easily could provide a small income from selling the offspring as pets.

On a large scale, aquaculture is big business. "Fish farmers" raise fresh and salt water fish in large tanks, holding pens or reservoirs. These fish are used for restocking water sources or for food.

Project Resources:

Pinterest – The Visual Discovery Tool



Pinterest is a social media bulletin board for you to virtually pin pictures of things that interest you to your own personal boards – Pin-Explore-Discover! 4-H Manitoba has a Pinterest account. Each project series has a board full of fun and interesting ideas. There are also boards for 4-H Awesome, Community Service, Volunteers, Communications and Building Blocks.

Check it out at www.pinterest.com/4hmanitoba/.

When you are doing a search for aquarium fish information on the internet be sure to be specific about what you want to find out - just entering "fish" or even "aquarium fish" will yield too many results for you to check and not all of them will relate to what you want to know. For example, try searching by the breed of fish or the topic you are interested in such as "diseases of fresh water aquarium fish".

Here are some sites that may be of interest:

https://en.wikipedia.org/wiki/List_of_freshwater_aquarium_fish_species

https://en.wikipedia.org/wiki/Freshwater_aquarium

<http://asw.ca/> Aquarium Society Of Winnipeg

<http://www.caoac.ca/> Canadian Association of Aquarium Clubs

Sections of the Aquarium Fish Fact Sheet were adapted with permission of Manitoba Agriculture from the Manitoba 4-H Project: Small Animals Leader's Manual - 1998. Portions of the fact sheet have been used with permission from Ontario 4-H and Saskatchewan 4-H Council.



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