

WEL-COME

***PREPARATION &
MAINTENANCE OF
AQUARIUM***

INTRODUCTION

- The custom of keeping fish in captivity is very old.
- The modern interest in aquariums began in the 19th century in England, Germany & other countries.
- Modern aquarium technology has greatly simplified many aspects of caring for fish in captivity.

PREPARATION OF AQUARIUM

- Before the amateur can begin to keep fish, he must built or buy an aquarium tank, & provide himself with the necessary basic equipment to maintain it in good order.
- Most convenient type of aquarium is that made from a welded frame of angle iron, in which glass is set.

- ❑ Such an aquarium is strong & yet relatively light in weight.
- ❑ The most practical kind of tank is one made of sheets of glass, joined in such a way to make a watertight tank.

MAKING AN AQUARIUM TANK

- ❖ The length is atleast twice the depth, & that the height is at most the same as the depth.
- ❖ It is important that the glass or metal is of the appropriate strength (thickness).

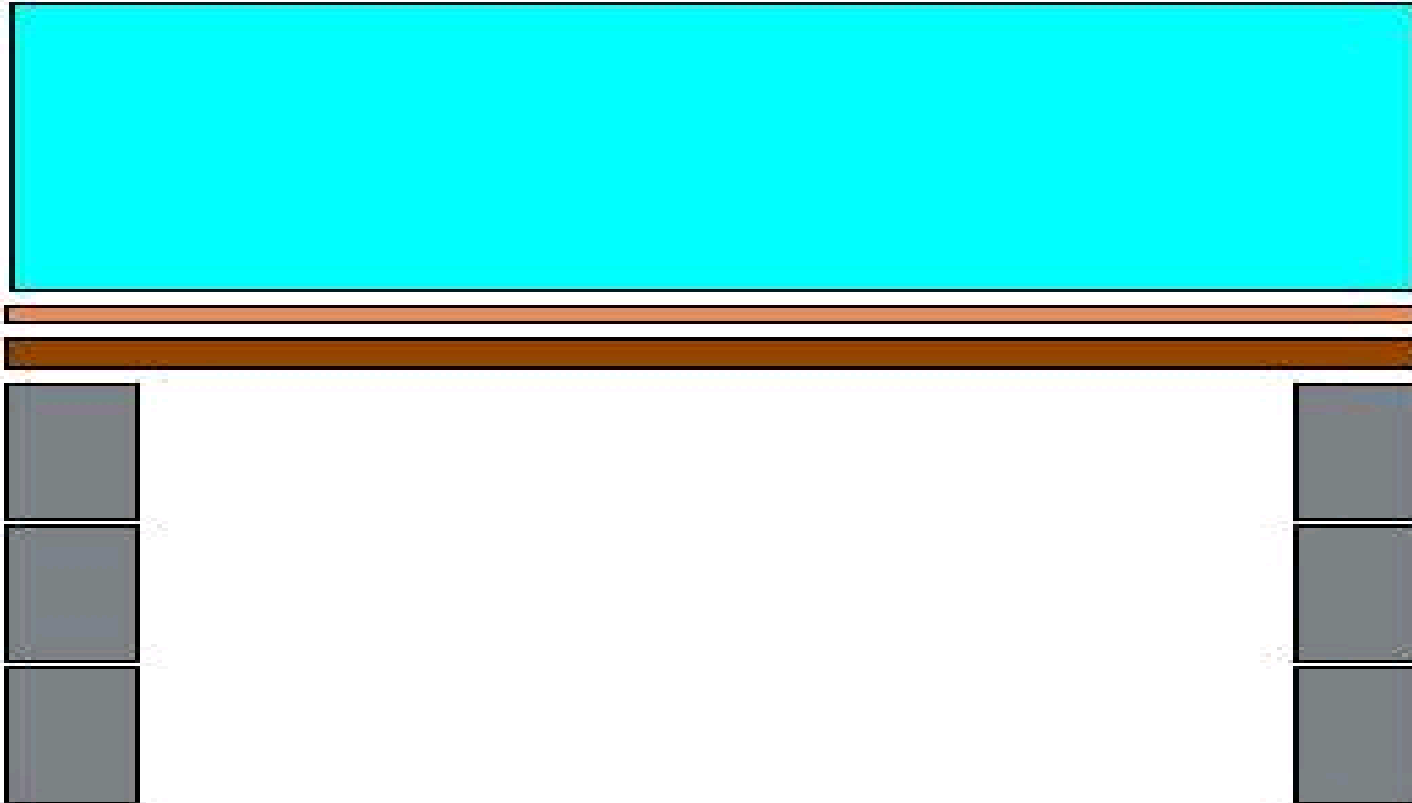
 Aquarium

 2 x 4's

 Plywood
Support Board

 Cinder Blocks

Front View



Top View of Laid Out 2 x 4's



❖ The metal angle strips must be welded together to form a perfectly rectangular frame, & the inside surfaces of the metal must be absolutely smooth.

❖ The frame should be given a liberal undercoat of metal primer before painting them.

❖ A prime coat of epoxy resin can also be given as a protection against rust.

- The front panel of the tank must be of glass.
- The size of the panels must then be carefully calculated.
- The easiest way is to measure the outside dimensions of the frame, & deduct the space needed for the putty & the thickness of the adjoining pieces of glass or metal.

- There are 5 pieces to be put in, & they may be inserted in the following order.

the base

the back

the front

side one

side two

- Starting with a glass plate for the bottom of length(l), width(w), & thickness(t), the correct size for the front & back panes can be determined.

- The sharp edges should be filed with wet, fine sandpaper, always rubbing in one direction.
- The edges of the glass plates which are to be glued must be completely grease free.
- The plastic nozzle of the tube of glue should be cut off at an angle so that the opening is 4-5 mm wide .
- The back pane should be pressed on to the glue immediately & the 2 pieces should be set against a vertical wall or support.
- The support should be covered with polythene to prevent any surplus glue attaching the glass.

- When the aquarium is finished it should be placed on a horizontal base & left to set for about 24 hours.
- When it is set, the excess glue should be removed with a sharp knife.
- Before fish & plants are put in, a finished aquarium should be left to allow to develop maximum strength.
- The tank can then be filled with water which should be left for 24 hours.

WALLS

- The walls can be made of various materials : CEMENT, STONE, PEAT, CORK BARK OR POLYSTYRENE.
- Walls which contain cement should be thoroughly leached.
- Once the walls are in place, the bed may be prepared.

BED

- ❖ The bed should have a basis of fairly dark, coarse river sand or of fine gravel with grains about 3 mm in diameter.
- ❖ By using a bottom layer of coarse sand or fine gravel many open channels are formed in the bed through which water can circulate round the plant roots.
- ❖ Coarse river sand contains a lot of loamy substances which makes the bed nutritious.
- ❖ Hence the top 3cm of the bed should be made up of unwashed river sand.

TERRACES

- In making a terrace, banks of sand are built up & kept in place with barriers of some more stable material.
- The barriers used may be the pieces of bogwood, natural rock or lava stone.
- Bogwood is the pieces of trunk or root preserved in organic acids.

- Before any piece of bogwood is used it should be thoroughly soaked so that it becomes completely water logged.
- The soft parts of the wood should be removed & the hard core thoroughly scrubbed & cleaned before being put in the aquarium.

FILLING THE TANK

- ✓ If water is simply poured into it, the careful arrangement of sand & terraces will be destroyed.
- ✓ The best way to fill it is to put a saucer with a good upward curving lip on the sand in the front of the tank & place in that a jar.
- ✓ A jug of manageable size filled with water should then be used very gently to fill the jar.

- When the jar is full & gentle pouring continues, the saucer will slowly fill as the jar overflows & then as the saucer overflows the water will gently trickle over the lip & start to be absorbed by the bed.
- The pouring should continue very slowly until the tank is full to a level above the level of the saucer.



1

- Unpack aquarium and other apparatus.
- Thoroughly rinse aquarium.
- NEVER use detergents or commercial cleansers.



2

- Place aquarium on a manufacturer recommended stand.
- Position tank away from drafts, heating ducts and direct sunlight.



3

- Add gravel, plants, decorations, etc.



4

- Set up and position filter and heater.
- DO NOT PLUG INTO POWER.



5

- Gently fill aquarium with water, using a plate to break the force of water.
- Verify that it does not leak. Ensure water has been conditioned.



6

- Position canopy. Plug in heater, filter and lights.
- Check that temperature has stabilized between 75 °F & 80 °F (24 °C & 27 °C) (for most fish).

Place fishes in the aquarium



MAINTENANCE OF AQUARIUM

- ❖ Routine maintenance will be affected by a number of factors including temperature, feeding, stocking levels, types of species & so on.
- ❖ The conditions inside an aquarium are constantly changing & unless you are aware of the nature & magnitude of these changes, things go horribly wrong in a short span of time.
- ❖ Daily attention to the aquarium is needed to feed its occupants.
- ❖ It is important to realize that it is harmful to pile lots of food of any kind into the aquarium at any time.



**KEEPING THE AQUARIUM
CLEAN**

❑ It is almost certain that some algal growths will appear on the inside of the aquarium glass.

❑ Removing these algae are easily done by rubbing over the inside of the glass with a wad of old newspapers & then by scrapping off any harder residue of algae with a razor blade .

❑ There accumulates on the sand of the aquarium a dark brown deposit or sediment called mulm.



- Excess of mulm should be removed by means of a siphon tube.
- Take some rubber tube, submerge this in the aquarium & then pinch one end of it between fingers & take this end out of the aquarium & into a bucket.
- This process will suck the mulm with water & in this way it can be removed from the tank.
- Replace the water with fresh water.
- There should be no need to change the aquarium water completely but these partial changes should be made from time to time.



SIPHONING THE MULM

MAINTENANCE CAN BE DONE :

- ❖ EVERYDAY.
- ❖ ONCE A WEEK.
- ❖ ONCE EVERY 10-14 DAYS.
- ❖ ONCE EVERY 3 WEEKS.
- ❖ ONCE A MONTH.

EVERYDAY

- Feed fish in the morning & in the early evening.
- Check temperature.
- Look for signs of illness, injuries, courtship, spawning behaviour, dropping of fry by females.
- In the evening, check on state of health of crepuscular & nocturnal species.
- Switch tank lights off 10 min before switching off room lights.

ONCE A WEEK

- Check water conditions, thermostats, heater, leakage.
- Do not feed fish for 24hours.
- Clean out the filters.

ONCE EVERY 10-14 DAYS

- Gently disturb surface of gravel, allow mulm to settle.
- Carryout a 20-25% water change.
- Check temperature, pH, hardness of new water & alter accordingly before adding to tank.
- Add dechlorinator & / or conditioner if larger water change is required.
- Scrape algae off the tank.

ONCE EVERY 3 WEEKS

- ❖ Clean the tank, sponge filters & other equipments.
- ❖ Rinse under tap.
- ❖ Do not sterilize unless essential.
- ❖ Check state of growth of plants.
- ❖ Take out unwanted plants or plant parts.
- ❖ Clean the cover glass.

ONCE A MONTH

- ✓ Remove & scrape or otherwise clean the stones.
- ✓ Check air-pumps.
- ✓ Remove excess mulm from below undergravel filter.
- ✓ Check light equipments.

10 basic rules for a successful aquarium

1

Provide regular, varied, feeding for fish. Feed two to three times per day, the amount consumed in approximately two minutes (for most fish).

2

Keep fish populations within reasonable limits.

3

Follow the daily, weekly, and monthly checklist in this guide.

4

Select fish that enjoy similar temperatures, water chemistry, are compatible with respect to behavior, and occupy different levels of the aquarium.

5

When choosing filtration, consider contact time, filter media volume, and factors which affect filter output.

6

Incorporate live plants whenever possible.

7

Choose the largest aquarium possible. Volume equals stability and greater flexibility in choices.

8

Stable conditions are important. Following the provided checklist will help achieve this.

9

Try to plan your aquarium set-up. Select plants, rocks, wood, gravel, and other décor which are complementary.

10

Enjoy the hobby! Use it as an experience to learn about a fascinating underwater world.

THANK YOU