



Equipment Needed

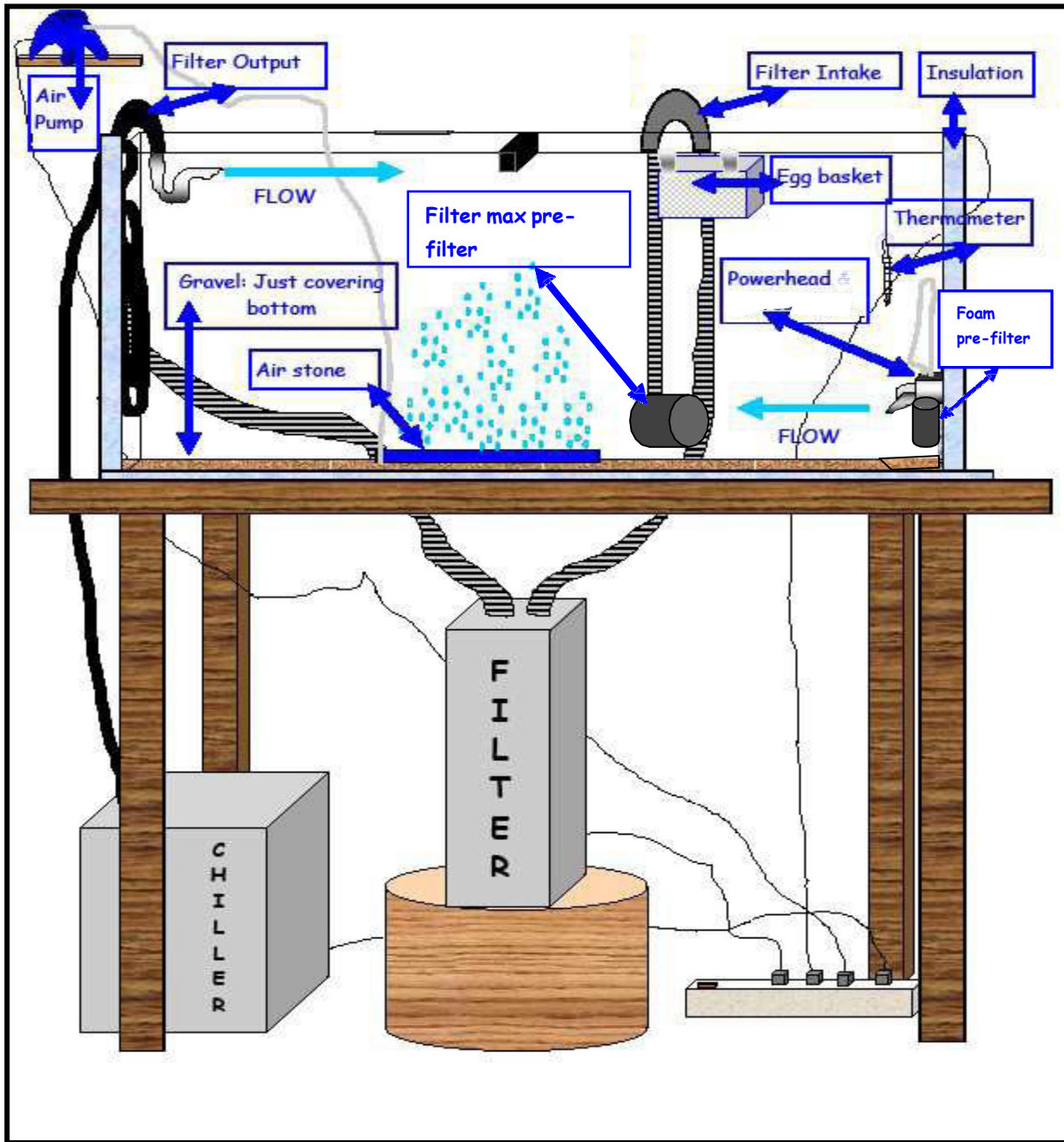
EQUIPMENT CAN BE PURCHASED AT A LOCAL BUSINESS	
WATER QUALITY TESTING and CLEANUP	
Freshwater Master Test Kit	Microbe Lift Special Blend and Microbe Lift NITE-OUT II
Siphon Kleen X-large	Turkey baster (<i>for water quality testing & egg removal</i>)
5 gallon buckets (<i>for water changes</i>)	16 oz. Tap Water Conditioner (<i>optional</i>)
TEMPERATURE	
Battery Operated Digital Thermometer	Floating Thermometer
Tradewinds Drop-in Chiller DI-25 (1/4 HP)	Foam board pieces for insulation: 2 @ 48 1/4" X21"; 2 @ 12 3/4" X 21"; 1 @ 12 3/4" X48 1/4"
WATER FILTRATION and CIRCULATION	
406 Fluval Canister Filter	Filter max pre filter (to place on your filter in-take)
Foam pre filter (for on your power head)	Aqua Clear 20 Power Head-Old 201
OXYGEN	
Whisper 20 Aquarium Air Pump	Airline tubing-25 feet
Check Valve-1 pack	Sandstone Airstone 12" x 3/4" x 3/4"
TROUT HABITAT and FEEDING	
55 gallon, glass aquarium (48 1/4" x 12 3/4" x 21")	Lid for 55 gallon aquarium (<i>Plexi glass, glass, plastic, etc.</i>)
Freshwater Substrate Jewels-5 lb.	Net-4 in.
Measuring spoons (1/8 th ; 1/4 th ; 1/2 tsp)	
GENERAL	
Power strip, towels/rags	VELCRO fasteners of tape (<i>for adhering foam to aquarium</i>)

EQUIPMENT THAT MAY NEED REPLACED AT THE END OF THE YEAR		
406 filter motor seal ring	Freshwater Master Test Kit	Chemi-Pure Filter Media 5 oz.
Fluval BioMax Media-17.63 oz.	Special Blend (microbe lift & nite out II)	Sandstone Airstone 12" x 3/4" x 3/4"
Tubing air stone connection	Foam Block(Fluval 404 and 405;2pack)	Check Valve-1 pack

Companies that support TIC and are the main suppliers for the program (They can assist with specific equipment questions.)
<p>Tradewind Chillers (2 year warranty) Website: http://www.tradewindchillers.com Phone: 760.233.8888 Email: Info@TradeWindChillers.com</p>



Aquarium Diagram





Aquarium Set-Up

Set up your aquarium at least 3 - 4 weeks before receiving your eggs. This will ensure that your equipment is in working order. If something is not working properly you have time to order replacement equipment.

****Use the DIAGRAM on the previous page as a visual guide when setting up your aquarium****

Tools needed for aquarium set-up		
Screwdriver	Pair of scissors or utility knife	Pliers to tighten any connections
Two clean 5 gallon buckets to fill aquarium with water	Wash cloth to wipe down the aquarium inside and out	Towels to dry any spills
Bucket to soak and rinse gravel	5 gallon bucket to place your filter base into <i>(if your filter leaks the water will stay in the bucket)</i>	Velcro strips with sticky back to connect foam board to aquarium

Aquarium location and preparation:

- a) Locate a suitable place in the classroom for the aquarium. Place it away from heat, excessive light, and lots of student activity. If next to a window, pull shade. Make sure aquarium is on a stable surface.
- b) Position aquarium on **insulation board** (cut to fit the bottom of the tank with ½” overhang on sides). Can be purchased at (*Lowes; Home Depot etc.*)
- c) Size, cut and place the remaining foam board on all sides of the aquarium. Use Velcro to attach foam to aquarium. This will help keep your water at the appropriate temperature.
 - i. After the trout hatch you can remove the front cover. **DO NOT** remove the sides or back, this will help continue keeping your water cold.
- d) If your trout become stressed place the front cover back on.
- e) Clean any dirt inside the aquarium with a wet paper towel. Do not use soap or any cleaning agent--the residue will stay in the aquarium and harm your trout.
- f) Locate an electrical outlet and plug in power strip. This should be right behind or underneath the aquarium. Turn off power strip.

Note: Make sure you place a note above the outlet stating “DO NOT UNPLUG”.

Gravel:

- a) Rinse gravel two or three times to remove dust. Then layer the bottom of the aquarium.
 - i. Gravel is important to your aquarium system. It encourages growth of good bacteria that assists with the nitrogen cycle.



Aquarium Set-Up (continued)

Filter:

- a) Assemble using the company directions. Place canister filter next to or underneath aquarium.
 - i. Place filter base in a 5 gallon bucket. This will prevent leaks if something goes wrong.
- b) Place filter outflow near the water surface and at opposite end of aquarium from the intake. The proper placement of the outflow will encourage good aeration at the water surface.
- c) Place the filter intake $\frac{3}{4}$ way down the aquarium side or just a few inches from the bottom. This will ensure that toxic water accumulating at the bottom is taken out.
- d) Place filter max pre filter on filter intake. The pre filter will prevent your trout from being sucked up into the filter system.

Powerhead: *(used for flow at the bottom of the aquarium)*

- a) Prepare the power head following company directions. On the opposite end of the aquarium from the filter output, place the powerhead $\frac{3}{4}$ of the way down the side of the aquarium.

Create water circulation:

- a) Make sure your filter output is at the opposite end of the aquarium of the power head. They will work together to create circulation on the surface (*filter output*) of your aquarium and near the bottom (*powerhead*).

Airstone and air pump:

- a) Attach one end of the airline tubing to the airstone, and the other to the air pump. Place the air pump near the aquarium or above the aquarium about 6-12 inches.
- b) Place airstone in the aquarium, away from the filter intake tube, preferably in the center/back of the aquarium.
- c) Use a check valve to prevent backflow of water in the airstone tube. To do this, make a cut in the air tubing and use the check valve to connect the two pieces back together. Air should push the flap and compress the spring inside the valve. Then insert the airline tubing into the airstone.
- d) Before turning on your airstone, submerge it for at least 1-2 hours.



Aquarium Set-Up (continued)

Chiller:

- a) Set up your chiller and prep your chiller according to the directions.
- b) Place your chiller at the opposite end of your aquarium from the filter intake and power head.
- c) You may set up your chiller when you set up the rest of the aquarium 3-4 weeks before your eggs arrive.
- d) Once all of your equipment is ready to be turned on, turn on the chiller as well to see if it is working. Once you have determined that it works, turn it off until 1 week prior to egg arrival.
- e) 5 days before your eggs arrive turn on your chiller and set it to 65 degrees.
- f) Approximately 2 days before your eggs arrive decrease your chiller temperature to 48 –52 degrees

Adding water:

- a) Fill aquarium about $\frac{3}{4}$ full with tap water using any clean container or tubing.
 - i. Clean buckets are best for this purpose. Using a hose from the sink is not recommended unless you can ensure it is properly attached. Otherwise, use clean buckets to move the water from the tap to your aquarium.
 - ii. Chlorinated tap water can be used for the initial setup, as there will be no fish in the aquarium for a few weeks.
- b) Check to make sure all of the equipment is working appropriately. Then, finish filling the aquarium, but leave at least 2-3 inches to spare at the top.

Prime 405 Fluval Canister Filter:

- a) Pump the silver key on top (marked “start”). Keep pumping the water through until you have filled all of the chambers, and have expelled all air. You’ll start to see water come out of the filter spout. *When turned on, the filter will make a “chugging” noise if not properly filled. Unplug immediately and continue to prime until the water has circulated through.*



Aquarium Set-Up (continued)

Hatching basket:

- a) Stretch the net over the outside of the plastic frame. Hang the basket on the aquarium wall by bending the metal clips. If you use a vibert box instead, it will be placed on the floor of your aquarium. Directions for making your own hatching basket are available in the “Extras” section.

OR

Create a redd (trout nest) in your aquarium:

- a) Create your own “redd” at the bottom of your aquarium by making a small dome in your gravel and placing a few eggs.

Double check before turning on power:

- a) Plug in all electric cords using the power strip, but keep the power OFF.
- b) Double check all connections and make sure everything is working.
- c) The output tube should be secure; a student can hold this tube in place.
- d) Turn on the power strip and check for any leaks in your equipment.
 - i. The bubbler should be creating a large volume of small bubbles.
 - ii. Place your hand in front of the power head to make sure there is good water flow.
 - iii. Make sure there is a good flow coming out of the filter output.
 - iv. Make sure your filter intake is taking in water by placing your hand in front of it.
- e) Make sure your chiller is working, and then unplug it. Two days before eggs arrive turn chiller on and temperature to 50 –52 degrees.