

TROUT IN THE CLASSROOM

New York State Manual



October 2024

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Getting Started with Trout in the Classroom

Timeline in NYC and Watersheds

The Trout in the Classroom (TIC) program begins with a Fall Teachers Conference in October. Teachers attend the conference to pick up trout eggs and food and network with teachers from across the state. To begin TIC, schools need to purchase all the equipment before receiving trout eggs. We recommend setting up the tank one month prior to receiving eggs for pre-cycling and to ensure all equipment is functioning properly, but no less than one week prior.

Once eggs are introduced, classes will then spend the fall and winter raising the trout in their classroom tanks. They closely monitor water temperature, water clarity, dissolved oxygen, ammonia levels, and pH to ensure the survival of their trout. This is also the time to start thinking about spring trout releases. If your trout release is TIC-supported, make sure to reserve a date on the calendar as soon as you can. Charter bus companies also book up quickly, so it's a good idea to reserve many months in advance. Transportation costs vary depending on location; grant funding is available through [Catskill Watershed Corporation](#), [Watershed Agricultural Council](#), and [Connect Kids to Parks](#). Please see the TIC [Startup Guide](#) for more information on these grants.

Required Equipment

To begin TIC, you will need to purchase and set up all the equipment before receiving trout eggs in the fall. Equipment costs are approximately \$1,500 (see grant funding information below). They can be purchased piecemeal or as a kit from our partner [That Fish Place – That Pet Place](#). This equipment generally lasts 8-10 years and maintenance will be approximately \$50-100/year.



Items needed to start TIC:

1. Purchase a [55 gallon tank](#) from a local retailer and a [stand](#). Some local pet stores have a summer sale for tanks that start at \$1/gallon. No light needed; cover is nice to have but not necessary. (\$250-\$300)
2. Order a chiller from [TradeWind](#) by contacting Hal at (760) 233-8888 or [by email](#). This is the best and easiest chiller to install and maintain. (\$693)
3. Order all other items from [Stephanie Welsh](#) at That Pet Place, (888) 842-8738 ext. 1288. We recommend [Kit #2](#), which includes everything you need from the filter to the water conditioners and healthy tank bacteria. (~\$420 including shipping)
4. Additional items needed (not included in Kit #2):
 - Foam board/other insulation material: The trout eggs and alevin are sensitive to light, so covering the tank completely at first is necessary. You can buy foam board or use any recycled materials from your school
 - Turkey baster: For removing uneaten food from tank, as well as dead eggs and trout
 - Pipet: Same as above, for more intentional use in the hatching basket

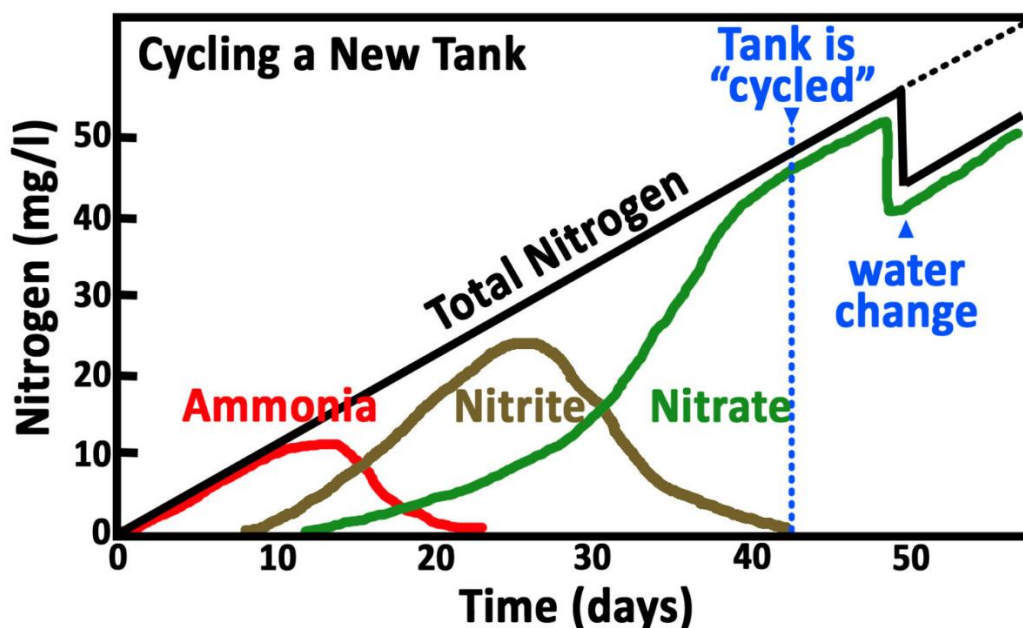
- Extra hatching basket: For spreading out eggs and the ability to isolate eggs as needed.
- Large towel: To keep in the classroom to clean up water spills
- Five-gallon buckets: For water changes
- A portable bubbler [like this one](#): In case of air pump/air stone failure in the tank and to bring on trout releases
- A cooler to bring on trout releases (at least five gallons, helpful to have handles for carrying down the trail)

Tank Setup and Pre-cycling

We recommend setting up your tank one month in advance to make sure all of your equipment is functioning well. If you are confident about your equipment, or limited on time, allowing your tank to run for a full week before introducing eggs is typically fine. This is also a good opportunity to introduce the tank and equipment to your students before introducing the eggs.

Note: Please do not add any items that do not come in sterile packaging to your tank. For example, plants and river stones can add pathogens and other harmful contaminants to your tank. This can be dangerous for your trout as well as the ecosystem to which they are released.

Pre-cycling is a process designed to complete the nitrogen cycle in your tank before the arrival of your eggs. When this works, it establishes a colony of good bacteria in your filter that can convert ammonia (from fish waste and decomposing excess food) to nitrite and then convert nitrite to the less harmful nitrate. Pre-cycling is optional, and most teachers do have success without pre-cycling their tank. The figure below from www.troutintheclassroom.org illustrates the progression in the nitrogen cycle during pre-cycling.

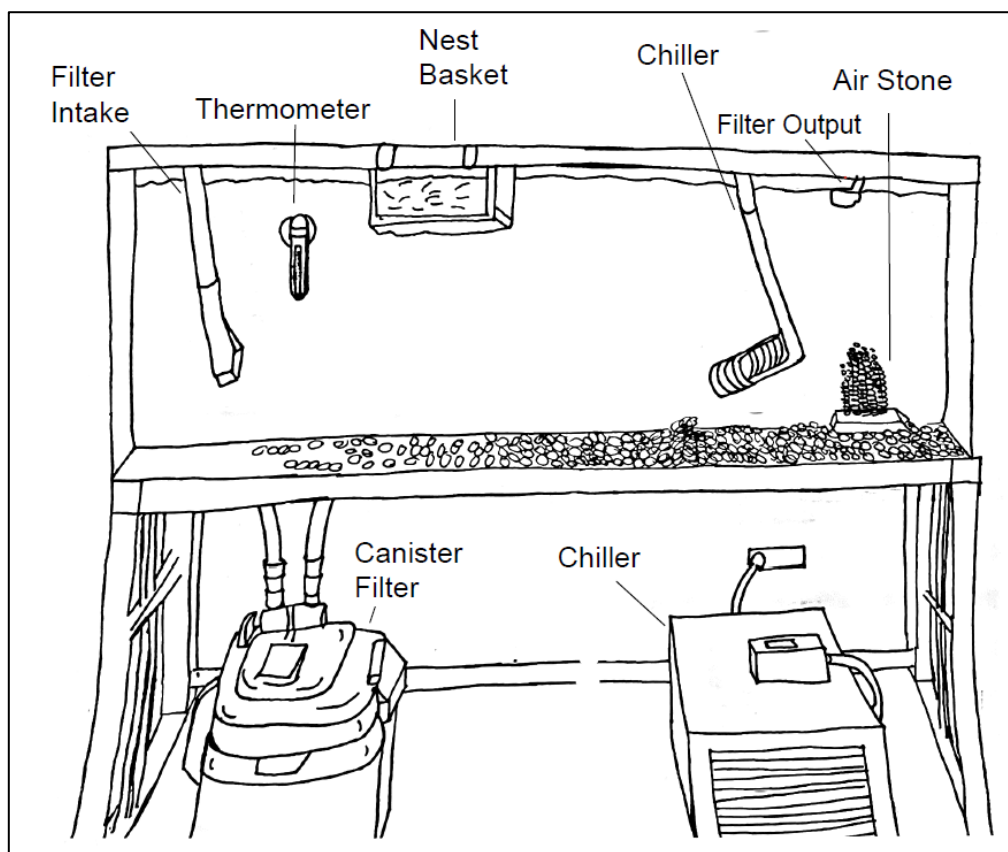


The chart above illustrates the typical progression of tank cycling. Cycled = no ammonia, no nitrite and nitrate that you keep below 40 ppm with weekly water changes.

If you would like to know more about pre-cycling, or have any additional tank maintenance questions, please visit the Trout in the Classroom [website](#), or reach out to the DEP Education Office at educationoffice@dep.nyc.gov. Another great resource is the [TIC/SIC National Network Google Group](#). Questions can be posted for an answer from TIC scientists, coordinators, and veteran teachers across the country.

Equipment Setup

Below is an illustration of a proper setup for a tank. This manual will detail setup and maintenance instructions for the more challenging pieces of equipment, namely the filter, chiller, and air stone/air pump.



Fluval 407 Canister Filter

This filter has many components, so it is important to set it up properly. [This video](#) from our partners at That Fish Place – That Pet Place provides a step-by-step guide. If you are having trouble maintaining healthy water quality levels, you can also [clean your filter](#), which can help alleviate some of these issues.

Additional Notes:

- Make sure you don't forget to put on the O ring, which comes with your filter kit, otherwise the filter will not seal, and you will flood your classroom floor.
- The filter intake and output tubes should be on opposite ends of the tank.
- After rinsing materials and putting the canister filter together, it can be helpful to go ahead and fill it with water before starting the filter. This helps the priming process.
- Make sure you prime the filter before plugging it in.
- Sometimes the Fluval 407 Filter has trouble self-priming. If you pump the filter and no water flows into the canister, please [watch this video](#) to see how to get the filter running.
- Clean sponges can be reused for several years, and the ceramic media can be reused indefinitely.
- Replacement items for the Fluval 407 Filter from That Fish Place – That Pet Place:
 - 1 pk. x Item# 214601 [White Bio Foam Block 2 pk.](#)
 - 1 pk. x Item# 284595 [Blue Bio Foam 2 pk.](#)
 - 1 pk. x Item# [256344 Black Bio Foam 2 pk.](#)
 - 2 bxs. x Item# [214946 Bio Max \(Ceramic\)](#) (you should not need to replace this unless broken)
 - 2 x Item# 196381 [Chemi-Pure](#) (to replace charcoal)
 - 1x Item# [Ammonia Remover Pad](#) (optional but can help filter process ammonia as a pre-filter)
- We recommend using foam on the sides, black foam on the bottom, bio max in the middle and at least 2 containers of the Chemi-Pure 5 oz. You can leave one of the baskets empty or you can fill it with more bio max, Chemi-Pure or another media of your choice (polishing pads, ammonia remover pads, nitrite remover pads).
- Once you release your fry from the hatching basket, make sure your filter intake is covered so that the fish do not end up in the filter. We have found the best cover is the plastic mesh used by florists in flower arrangements. You can visit your local florist and ask for a piece of mesh.

TradeWind Drop-In Style Chiller

We recommend this chiller as the easiest to install and maintain in the tank. Some TIC teachers do have success with in-line chillers, which can be purchased from That Fish Place – That Pet Place.

Additional notes:

- It is helpful to keep frozen tank water on hand in case of chiller failure. You can freeze tank water in a plastic bottle and stick the plastic bottle in the tank (or in a bucket) if necessary.
- HVAC repair businesses typically will be able to repair your chiller in case of failure. TradeWind will repair chillers for free, but shipping out to California is extremely expensive.
- Chiller consoles are notoriously inaccurate – make sure that you are reading data from an additional thermometer as well.

- Do not cover your chiller with any items (e.g. fabric, a cabinet door). Like an AC unit, they need to vent and can be a fire hazard if covered up.

Air Pump/Air Stone

The air pump and air stone are necessary in order to provide oxygen to your fish. Please watch [this video](#) from That Fish Place – That Pet Place before installing these pieces of equipment. Don't forget to install your check valve, otherwise you could have water siphon out of the tank into your air pump and onto the floor!

Tank Additives

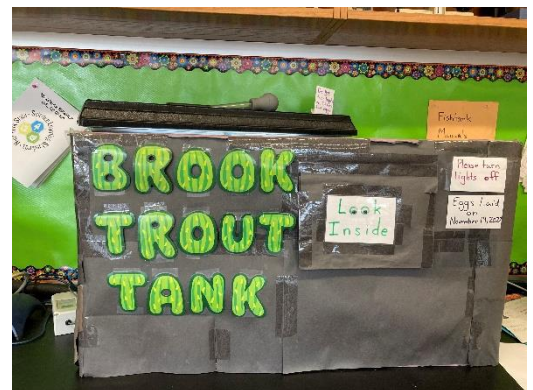
When you order your kit from That Fish Place – That Pet Place, it will include the following tank additives:

- **Nite Out II:** This solution helps to balance your tank's nitrogen cycle and establish good bacteria. You will add this initially and when you do water changes throughout the year.
- **Special Blend:** This solution helps establish your tank's good bacteria and start the nitrogen cycling. You will add this initially and for the first couple of weeks into the trout lifecycle. Once the trout begin to hatch, we recommend that you **do not continue to add** this, as it can contribute to increased ammonia and nitrites in the tank.
- **NovAqua Plus:** This solution must be added initially, and whenever you do water changes. It removes chlorine and other compounds from the tap water, making it safe for your trout.

Please note that each tank additive has an expiration date. Special Blend and Nite Out II are notorious for not having these listed on their bottles, so we recommend writing an estimated expiration date on the bottle yourself (one year from opening). Adding expired solutions to the tank can cause a takeover of bad bacteria and/or fungus, which can harm or kill your fish. Note that for year-to-year maintenance, these solutions come in smaller sized bottles. Typically, 8 ounces is enough for each school year for the Nite Out II, and 4 ounces is enough for the Special Blend.

Tank Insulation

Be sure to cover your tank with foam board or another insulating material. Before they hatch, trout are very sensitive to light, and thus the whole tank should be covered. This insulation also helps to keep the tank cool and will help protect the tank temperature in case of a chiller failure. It also increases the longevity of your chiller since it doesn't have to work as hard to maintain the cold temperature. Insulation can be removed from the front after trout have hatched, but we recommend keeping it on the back and sides to help maintain the tank's temperature throughout the year.



Some teachers cut out a flap from the insulation over the hatching basket so that students can observe the development of the trout without having to remove the insulation. See the photo on above for an example from P.S. 58. You can also have fun with decorating the insulation materials with your students!

Egg Delivery Day Protocol

- Transport a clean 8-12 oz glass jar in a cooler with an ice pack and padded with crumpled paper or foam to minimize jostling and banging around.
- The tempered eggs will arrive in a jar of hatchery water. To acclimate the eggs, let the egg jar sit, closed, in the tank for 10 minutes before pouring the eggs into the hatching basket.
- Keep your tank dark and insulated (see above).
- Be sure the filter is operating at its highest flow rate.
- Following instructions on the bottles, add Nite Out II and Special Blend bacteria to the tank after the eggs are in the hatching basket.

Tank Care and Maintenance

Trout Stages and Caring for Trout

Most TIC teachers receive eyed eggs in the fall and watch the trout move through their lifecycle until they release them in the spring as fingerlings. Below you will find tips for caring for your trout at different life stages.

Eyed eggs — Identifiable by their characteristic dark spots—each trout’s two eyes

- Movement during delivery of the eggs can weaken the outer layer of the shell and cause weak spots or broken areas that are vulnerable to fungal infection.
- Fungus spreads REALLY fast, pick out spotted eggs twice a day, especially before the weekend. Also remove dead (white) eggs as soon as possible. A turkey baster is helpful for doing this.
- Outer shell must remain translucent, an egg with any opaque spots (or fully opaque) will not develop. Uniform cloudiness can be okay, it might be just the trout development. If you are unsure, isolate the suspect eggs in a separate hatching basket. It is helpful to have a second hatching basket for this reason.

Hatching — No more than 2-3 days from first egg to last

- Most trout will hatch within 2-3 days of first egg hatching.
- Some eggs will not hatch properly, and some alevin may not come all the way out of the egg. Any leftover eggs must be removed and discarded (or isolated—these are unlikely to hatch).

- Leftover shells will float to the top of the tank or in the basket and fish enzymes will break them down and create foam—this is normal. Scrub the sides of the tank with an aquarium sponge to loosen this foam.

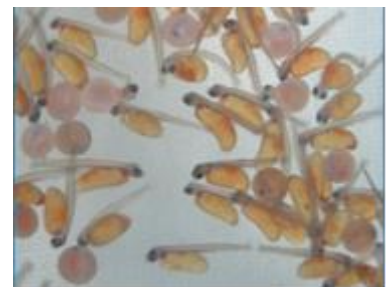
Fry Stages

Just after hatching

- During this alevin phase you may feel a jelly-like fungal growth around the inside tank surfaces and hatching basket. If you find this, wipe or scrape the surfaces with a sponge to send it through the filtration system.

Alevin (sac-fry) — 1-3 weeks

- Length of time at this stage depends on the water temperature; warmer water causes fry to develop faster. Instead of relying on the chiller consoles, we highly suggest using a digital thermometer daily to make sure in-tank temperature is 50-53 degrees Fahrenheit. Chiller consoles are notoriously inaccurate.
- Look for trout development. Alevin can survive in a Petri dish, or under a microscope or hand lens for a short time.



Swim-up stage — one week or less

- As yolk sacs disappear, some trout will start swimming around looking for food. Start feeding tiny amounts when you see the first trout swim up in the hatching basket.
- Feed trout by spreading a miniscule amount of size 0 food near any swimming trout.
- Now is a good time to “boost” your tank’s nitrifying bacteria with a shot of Nite Out II, follow instructions on the bottle or box. At this point in the lifecycle, we recommend stopping use of Special Blend.
- Once all fry are swimming up and have been eating, unhook a corner of the basket or lower the mesh to allow strong, adventurous fish to swim out. Weaker fish will remain in the safety of the basket, with easy access to food, until they are ready to swim out as well.

Fry stage — 6-8 weeks

- Feed may vary, try to ensure all of the fish are eating, this may require feeding on two separate sides of the tank. In general, feed a tiny pinch of food every day or every other day. Use your judgment to make sure your trout are getting enough food and try not to feed any more than can be fully consumed in a few minutes.
- Some trout never learn to feed and will not survive. Non-feeding fish are called “pinheads”—big heads, little bodies.
- Every TIC classroom sees this mortality spike with the pinheads—it is VERY normal.
- Any leftover food that collects in one area MUST be removed within 10-15 minutes.



- A turkey baster is a great way to vacuum up extra food and waste. Continued leftovers mean that you are overfeeding, which can cause problems with ammonia levels and tank chemistry.
- Test your water weekly to monitor the chemistry and add water conditioners such as Nite Out II and NovAqua as needed.
- **IMPORTANT:** Make sure you are also doing weekly cleanings and water changes using your gravel cleaner. This is necessary at this stage as you are getting more ammonia into the system. You can learn how to use a gravel cleaner in [this video](#).

Fingerling Stage — The rest of the time

- Look for parr marks on the trout.
- Small water changes with a siphon can happen every day with a 20% change at the end of each week.
- Clean your tank within 15 minutes after feeding.
- Always keep track of your water chemistry—water testing can help you with this.
- If any levels seem high, do at least a 20% water change (make sure temperature is not changing drastically during the water change).
- Cannibalism can occur—the big fish sometimes do eat the little fish. If cannibalism is becoming an issue, then feed more often to assuage hunger or isolate the cannibal fish (more on this under Troubleshooting).
- Be sure to clean more often and do water changes if you are feeding more often.



Best Practices for Tank Maintenance

- Make sure that your hands are clean and have no hand sanitizer, soap, or lotion on them before putting them in the tank or touching any tank materials to avoid contaminating the water. Make sure to also communicate this with your students.
- Always treat added water with water conditioners, such as NovAqua. Chlorine in untreated tap water can harm your trout.
- When in doubt, do a water change:
 - If you come in and all fish are lethargic—WATER CHANGE.
 - If you come in and all fish are unmoving at the bottom of the tank—WATER CHANGE.
 - If you come in and your fish don't respond to food—WATER CHANGE.
- During the first few weeks, initial ammonia spikes from overfeeding are likely. Water changes and water conditioners are the only solution.
- Make sure to add Nite Out II and water conditioner when doing weekly water changes. Once the swim-up stage begins, we recommend no longer using Special Blend, but make sure to continue to use Nite Out II and water conditioner.
- In an emergency, clean water is more important than temperature stability.

- If you change your filter media, only change one section at a time allowing the bacteria from the remaining section to colonize the new media. The ceramic media should not be changed.
- Always keep frozen tank water on hand in case of an emergency.

Troubleshooting

Trout Tragedy

Here are some tips for troubleshooting with your tank during the school year if a trout tragedy occurs and you find many dead trout.

- Remove healthy fish first and put them in a reserve water bucket (with treated water), no matter its temperature. Use a battery-operated aerator or the tank's air stone in the bucket. If possible, add frozen tank water (great to have in case of an emergency) or an ice pack in a zipped plastic bag.
- Remove as much water from the tank as possible (up to 80% depending on severity).
- Leave pump and filter intake covered so that the filter continues to operate.
- Clean tank with a clean scrub sponge, removing as much crud as possible and remove gunk with turkey baster.
- Refill tank with water and treat with water conditioners (e.g. NovAqua plus and Nite Out II).
- Cool water with frozen tank water or clean freezer packs in a zipped plastic bag.
- Replace at least one charcoal filter.
- Clean your other filter media and remove water from canister.
- Replace fish in tank.
- The next day, add more NovAqua plus and Nite Out II.

Cannibalism and Bullying

Sometimes one fish will begin to bully smaller fish or start to eat them. We recommend isolating this larger fish in the hatching basket so that you do not see several of your smaller fish disappear. Make sure that the top of the hatching basket is above the water line so that the bully fish is not able to escape.

Feeding Guidelines

Begin feeding when egg sacs are absorbed, and the fry begin to swim to the top of the hatching basket. At this "swim up" stage, it is best to keep the fish in the breeder basket rather than give them access to the entire tank.

Your food comes in three different sizes. Start feeding with the bag marked 0's, then 1's, then 2's. The food is perishable, so keep the bags sealed and, in a refrigerator, if possible. Food should be discarded after one year.

First Feeding: Size 0 (meal)

Your hatchlings do not require feeding for 7-14 days after hatching. They will feed from their yolk sac as they stay low, at the bottom of the hatching basket. After the first hatchling begins to rise off the bottom, start providing a very small amount of food. Offering food early helps with trout development but **ALL** uneaten food must be removed. NOTE: A small mortality rate is expected since some hatchlings never begin eating.

Finish Size 0 before moving on to Size 1 food. The transition to Size 1 typically occurs when your fish reach about 1" in length.

Finish Size 1 before moving on to Size 2 food. The transition to Size 2 typically occurs when your fish reach about 1 1/2" in length.

The measurements below are not the product of hard science, so you always need to use your best judgment based on the number, age, and size of the fish in your tank and any water quality issues you may be experiencing. **The best rule of thumb for feeding trout is to feed an amount that is consumed by the trout in approximately 1 minute.**

Feeding Guidance in Teaspoons:

Age/Size of Fish	Amount Per Day/Size of Food
From swim up to week 3	Very little food – small pinch of size 0
From 3 weeks to 1 inch long	¼ + ⅛ tsp. of size 0
From 1 inch to 1.5 inches long	¾ tsp. of size 1
From 1.5 inches to 2 inches long	1½ tsp. of size 2
From 2 or more inches long	2¼ tsp. of size 2

Feeding Guidance in Grams:

Assuming 50 baby fish, feed them approximately the following amount of food each day -- interpolate as needed.

Age/Size of Fish	Amount Per Day/Size of Food
First feedings, fish still in hatch box	Very little food – small pinch of size 0
1"	0.34 grams, size 1
1.5"	0.85 grams, size 2
2"	2.7 grams, fish ready for release

NOTE: You can calculate feeding amounts quite precisely by using the formula below. This is a great activity to do with your students to test their math skills!

$$\frac{1}{P/N} \times 0.03 = \text{weight of food needed to feed fish in POUNDS}$$

P = Number of fish per pound

N = Number of fish in tank

EXAMPLE:

At birth, your fish will weigh about 8000 to the pound. If you start with 200 eggs, they will require only 0.012 ounces or 0.34 grams per day. They will reach about 1" before you need to move up to size 1, by then they will weigh about 2000 to the pound (bigger fish, less per pound) and will require about 0.048 ounces or 1.36 grams of food.

Approximate number of fish per pound, based on average length:

- At Birth: 8000
- At 1 1/2": 800
- At 1": 2000
- At 2 1/4": 250

More Notes on Feeding

The 0's and 1's may need to be sunk down to the fish because the oil added to the food may cause it to float. A small plastic spoon will work fine. When the food is introduced to the water directly above the fish a slight back and forth motion should get the food to sink.

- Please **do not overfeed your fish**. Wasted food will degrade water quality.
- Clumps of dull yellow forming on the bottom or sides of your tank should be removed immediately with a net or a small siphon/turkey baster.
- When you feed, check for dead fish, and remove them immediately.
- Keep your food in a dark place out of direct sunlight (in a refrigerator, if possible).
- When you are about to run out of one size of food, mix a little of what's left into the next size larger before switching.
- It is better to feed less food, more often, than a lot of food all at once.
- When the fish get larger and you switch over to size 2, you will be able to see them actively feeding more than you will with sizes 0 and 1.

A Final Note About Enthusiastic Help

Every year, many schools enlist the assistance of volunteers to feed the fish on the weekends and holidays. Please warn volunteers about overfeeding and have a sheet of paper near the tank so they can track how often the fish have been fed. You can also put out the correct amount of food, pre-divided and marked in daily increments, and conceal the rest. An easy way to do this is in a pill box marked with each day of the week. However, remember that your trout are wild animals that can survive lean times, and often extra feeding is not necessary for their survival.

Water Quality

Having good water quality is imperative to raising your trout successfully. We recommend testing your water quality at least two times per week, and more if you are seeing any issues with your fish. [This video](#) from That Fish Place – That Pet Place walks through testing each of the important water quality testing parameters using the provided API kit. You can find more information in this section on each parameter and their recommended levels. Visit the Trout in the Classroom [website](#) for more detailed information on maintaining your water quality.

PH

Refers to the acidity in water. A pH value between 6 and 9 will support most types of plant and animal life, but trout prefer a more neutral pH between **6.5 to 7.5**.

Ammonia

Ammonia is one of several forms of nitrogen that exist in aquatic environments. Unlike other forms of nitrogen, which can cause nutrient over-enrichment of a water body at elevated concentrations and indirect effects on aquatic life, ammonia causes direct toxic effects on aquatic life. Trout are very sensitive to ammonia, and the level should be kept at **zero**. If it rises above zero, do a water change immediately to avoid a trout tragedy.

Nitrite

NO_2 is formed by the conversion of ammonia by nitrifying bacteria. Nitrite is toxic to fish because it binds with the hemoglobin in fish's blood to form methemoglobin, which can result in hypoxia. Trout are very sensitive to nitrite, and the level should be kept at **zero**. If it rises above zero, do a water change immediately to avoid a trout tragedy.

Nitrate

NO_3 is formed in your tank by the conversion of nitrite by nitrifying bacteria. In natural environments it is often caused by inorganic fertilizer that enters water supply sources from septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, sanitary landfills and garbage dumps. Ideally nitrate levels should be kept **below 40 ppm** in your tank. Unlike nitrites and ammonia, it is not usually lethal to trout, but if your levels climb significantly higher than 40 ppm, do a water change.

KH

Carbonate hardness, or a measure of carbonate and bicarbonate ions in the water. Ideally should be above 150 ppm in your tank. KH helps to create a buffer for pH, especially from acidity in the tank. If KH is excessively low, you can try adding crushed coral to your tank substrate or to a filter media bag in your canister filter.

GH

General hardness of the water. Calcium and magnesium are the two most common elements that contribute to GH. This value is unlikely to affect trout unless water is excessively hard or soft, which isn't typically the case in New York State.

Releasing your Trout

After months of hard work, you arrive at the culmination of the Trout in the Classroom program – your trout release! Trout release season starts the last week in March and ends the first week in June. **Trout must be released at a site approved by the New York State Department of Environmental Conservation.** Releasing trout in unauthorized areas can taint native and wild fisheries with hatchery fish. They are also better suited in some streams and not others. If you are unsure of whether a stream is authorized, please contact the TIC Coordinator. **You must also complete the permit application request form and receive your permit before releasing your trout.** The information for completing the permit application will be included in the monthly newsletter starting in the new year. If you are in NYC and the watersheds and would like to have a TIC-supported release, please coordinate directly with the TIC coordinator to confirm your trout release dates. The calendar fills quickly for both TIC and bus companies, so make sure to start planning early!

For NYC schools and many East-of-Hudson Watershed schools, most trout releases happen at our premier trout release site, Ward Pound Ridge Reservation, the largest county park in Westchester County. With its varied terrain and landscapes and miles of wooded trails, the park provides an ideal location for spring trout release field trips. It is also eligible for Watershed Agricultural Council [field trip grants](#). Some schools also apply to the NYS Parks [Connect Kids to Parks](#) grant program to fund transportation for their field trip. In order to be eligible for this funding, schools must visit a New York State Park.

During TIC-supported trout releases, students participate in a ceremony to release their trout. The temperature of the river and trout cooler are taken, and the cooler is acclimated until they are within three degrees Fahrenheit of each other. Students are briefed on how to release their trout gently into the river by crouching down and placing the cup into the water to tip the fish out. The students then sing “Happy Free Day” to their trout, which are released one by one in cups into the river. These field trips typically also include other activities such as macroinvertebrate observations, hiking, journaling, scavenger hunts, and/or a forest filter activity.

Before leaving for trout release field trips, make sure to inform students of items that they need to bring to be prepared for their field trip:

- ✓ Full water bottle
- ✓ Snacks and lunch
- ✓ Long pants and tall socks (for tick and other bug prevention)
- ✓ Closed-toed shoes (comfortable for walking/hiking, that can get dirty)
- ✓ Layers and rain gear if needed
- ✓ Hat and sunscreen

The weather during trout releases can vary. In April it can be cold and rainy, and by the end of May and early June, we experience some very hot days. Make sure to check the weather prior to the field trip so you and your students are prepared. For TIC-supported trout releases, the entire trip is outside in the elements, and is rain or shine.

Regardless of when you do your trout release, you will need:

- ✓ Frozen tank water (in takeout containers or bottles) – do not put ice packs directly into the cooler, as this can leak toxic chemicals that can kill the trout and harm the other animals in the river
- ✓ Portable air stone and extra batteries or charger (if USB chargeable)
- ✓ Thermometer to monitor temperature
- ✓ Extra charger for phone or other electronics
- ✓ Fish net

When you are getting your fish ready to leave, first fill the cooler with tank water, but make sure it is not too full so that it does not spill when carried. Add your fish, and make sure to double and triple check that no fish are left behind. Some fingerlings are professional hidiers and have been found after the trout release field trip when the group returns to school.

Here are some additional teacher-inspired recommendations for items to bring on a trout release field trip:

- ✓ Tall five-gallon bucket and cover for transporting trout, or large cooler with handles if possible for carrying down rocky trail
- ✓ Map and driving instructions (be familiar with route, need paper map due to limited reception)
- ✓ Extra items to bring for students: Long socks, warm clothes, rain gear, bug spray, sunscreen, baby wipes and hand sanitizer, extra drinking water, snacks, extra lunch or extra school lunches, drawstring bags for carrying materials
- ✓ Misc. items: Scissors, duct tape, garbage bags and recycling bags (extra for possible bus sickness), towels AND paper towels, gloves (latex/non-latex)
- ✓ Note to chaperones for trip expectations
- ✓ If you're not doing a TIC-supported trout release: clear cups for releasing trout, fish net, activity materials, first aid kit

Good luck, and we are here to support you!

**NYC Department of Environmental
Protection**

educationoffice@dep.nyc.gov

For more information visit www.nyc.gov/dep

