

Culturing Frog Eggs and Tadpoles

Live Material Care Guide



Background

Tadpoles are the larval stage of frogs and toads. Eggs and tadpoles are commonly found in calm, fresh waters. Frog eggs are found in clusters, whereas toad eggs occur in long strands. With over 3,900 species of frogs in the world and no obvious distinguishing differences in tadpole development between species, it is nearly impossible to determine a frog's species by observing its tadpole stage.

Tadpoles are wonderful organisms for metamorphosis studies. Biology students will be fascinated as the animals transform significantly in appearance and behavior, and as they switch from herbivores to carnivores.

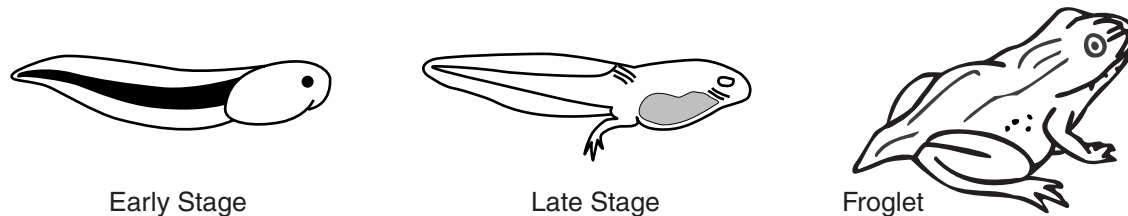


Figure 1. Tadpole Stages

Culturing/Feeding

Cut masses of eggs using scissors to obtain groups of about 10–20 eggs and place the egg clusters in at least 200 mL of dechlorinated water. Fresh aged water, such as clean pond water, spring water, or chlorine-free tap water works best. *Never use distilled or deionized water.* The surface area of the water is much more important than the volume, since surface area determines oxygen exchange. Ideally, cultures should be aerated using an aquarium air pump attached to a gang valve.

Keep cultures at room temperature, out of direct sunlight. Culture dishes or plastic 2-liter bottles cut in half work well for maintaining the eggs until they hatch. Once tadpoles emerge in the culture, increase the amount of water to one liter per 10 tadpoles. Increase to one liter per tadpole once the tadpoles begin to feed and move them into an aquarium. Overcrowding is often fatal for tadpole populations. Tadpoles do not need to be fed until mouth parts develop—prior to this stage they feed on a built-in food source consisting of the yolk sac. Once mouth parts are present, most species will need to be fed daily on flake fish food, bits of boiled lettuce or spinach leaves. Species-specific feeding procedures should be researched. A few pinches per tadpole should be adequate.

After 6–9 weeks, legs will appear and the tadpoles will require sloping rocks or a slanted shelf so that they can climb partially out of the water as their lungs are developing. At this time, begin to feed the tadpoles hard-boiled egg yoke or small pieces of raw liver 2–3 times per week. *Remove any uneaten food after an hour to prevent bacterial growth in the water.* The aquarium should remain covered at this time, since the animals will soon begin to jump. After 10–12 weeks the tadpoles will become froglets, and shortly after they will morph into fully-developed frogs.

Disposal

Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures, and review all federal, state and local regulations that may apply, before proceeding. Frog eggs and tadpole cultures may be disposed of according to Flinn Suggested Biological Waste Disposal Method Type IV. Never release live animals into the wild. They may be invasive or harbor pathogens to the local population.

Tips

- Before ordering frog eggs or tadpoles, you must have a plan for the disposal of the resulting adult frogs. Do NOT release any species of amphibian into the wild.
- Excess tadpoles may be used as a food source for adult frogs, turtles, crayfish, or large fish.
- The single most important factor in maintaining a successful tadpole culture is clean water. Change half of the culture water a couple of times per week with aged water. As tadpoles get larger, the water may need to be changed more frequently.
- Place eggs and tadpoles into Petri dishes in order to examine them using a stereoscope (dissecting scope).
- Healthy eggs turn dark in color. Any eggs that remain light colored after a few days may be dead or unfertilized.
- Do not intermix species of amphibians either as eggs or tadpoles and never put them in with adults if you want them to survive.

Materials for *Culturing Frog Eggs and Tadpoles* are available from Flinn Scientific, Inc.

Catalog No.	Description
LM1194	Live Frog Eggs, Various Species, 100
AB1264	Culture Dish, 300-mL

Consult your *Flinn Scientific Catalog/Reference Manual* for current prices.