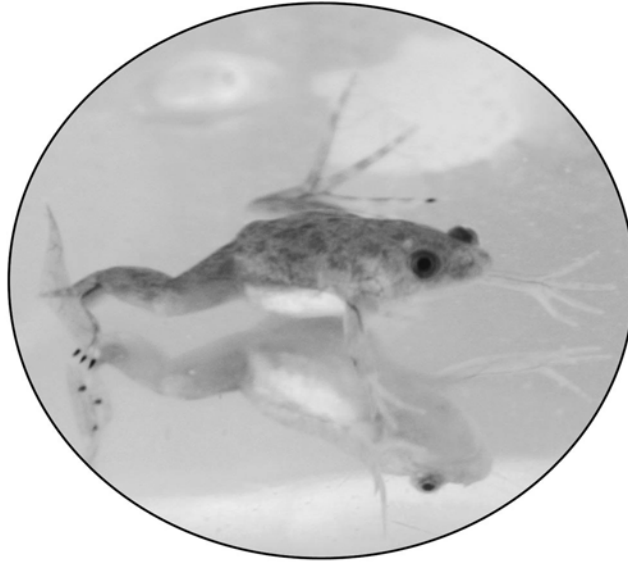


Frog Hatchery Kit



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Introduction

About Amphibians

Frogs are animals that belong to the class Amphibia, commonly known as amphibians. Amphibians live both on land and in the water—sometimes they live in water only until they are fully grown. There are three orders of amphibians: frogs and toads with over 2,000 species, salamanders with approximately 300 species, and caecilians with about 160 species.

About Frogs

Frogs differ from other amphibians in that they have smooth skin, are usually tailless as adults, and have the ability to leap. Some frogs spend their whole life in water while others are terrestrial, spending most of their time on land or in trees. Toads are also tailless, leaping amphibians but they have rough, warty skin.

Frogs have short bodies with large, powerful hind legs. Some are able to leap 20 times their body length. Their front legs are short and specially designed to absorb the impact of landing. Aquatic frogs have webbed rear feet, usually with five toes. Their front feet are not webbed and usually have four toes. Tree frogs have suction cups on their toes that allow them to cling to the bark of trees.

The head of a frog contains large, bulging eyes, nostrils, and internal ears. The eyes rotate in their sockets, providing sight in almost any direction. The nostrils are located on the top of their head to allow breathing while most of the head is submerged. Tympanic membranes on the sides of their head cover their internal ears. Their tongues are usually long and sticky and can be flicked out quickly to catch prey.

The skin of frogs is designed to protect them. First, they have camouflage skin colorings that help them to blend in with their surroundings and make them difficult to see. Special pigment cells in their skin control the camouflage pattern and colors. Second, some frogs have serous glands in their skin, which secrete poison that will irritate the mouths of their predators. This poison varies from only a slight irritant in many species to a deadly poison in some South American tree frogs. Finally, the skin of frogs is designed to keep them from drying out and mucous glands secrete a waterproof coating that makes their skin moist and slippery.

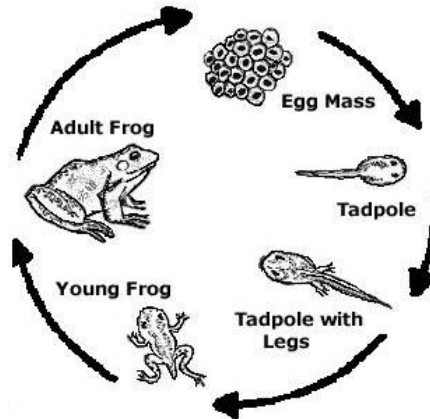
Life Cycle of a Frog

A frog begins life as a tiny fertilized egg. The female frog lays eggs underwater in a string or mass that sticks to vegetation. The male frog fertilizes the eggs as they are laid. The outer layer of a fertilized egg is a jelly-like material that swells in water, forming a protective coating. The fertilized egg is a single cell that rapidly divides again and again producing new cells that quickly differentiate into the organs of the frog

embryo. Within 2-25 days, depending on the species and water temperature, a tadpole hatches from the egg.

The tadpole looks more like a fish than a frog at first, with gills on the outside of its body. As the tadpole develops, it forms internal gills that allow it to breathe efficiently underwater. The tail grows longer and a fin is formed. The tadpole continues to swim, eat, and grow.

The first sign of further development is the appearance of hind legs, anywhere from 6-8 weeks after the tadpole has hatched. At around 12 weeks, front legs develop and the tail becomes shorter and shorter as it is resorbed by the tadpole's body. Internally, the gills are replaced with lungs until finally the tadpole has become a frog. Around the time that the tail is fully gone, the young frog will make its first venture out of the water and onto land. This dramatic change from tadpole to frog is called *metamorphosis*. The young frog grows and matures to adulthood over the next 2-4 years. Adult frogs then lay eggs and the cycle begins again.



Your Frog Hatchery Kit

Kit Contents

- aquarium with a lid
- prepaid coupon for live frog embryos
- tadpole food powder
- frog food pellets
- magnifying glass
- plastic pipet

Each species of frog is different and each requires a slightly different environment and care. You will receive one of two species; the instructions that are sent with the embryos will clearly state which type you have received. Read the Care Sheet specific to your embryos before proceeding, and then follow the instructions below for setting up your aquarium and for general tadpole care.

Raising Tadpoles

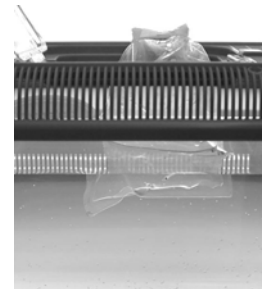
Please note that it is possible that the embryos will have already hatched into tadpoles by the time you receive them. If the embryos have not hatched during transit, they may not move at all until they hatch – in about four days. The complete metamorphosis from embryo to frog will occur over a period of about 2-3 months, depending on the species of frog you received and other conditions such as food and temperature. Six to ten embryos will be shipped to you and while it is unlikely that every one of them will survive, **you must carefully follow all instructions to ensure the best results!**

1. **Order the embryos:** Fill out and mail in the prepaid coupon 2-3 weeks before you want to receive your embryos. Be aware that depending on weather and availability, it could take 2-3 months after mailing the coupon for your embryos to arrive.

Note: this coupon cannot be redeemed in Alaska, Hawaii, or Utah. If you live in Arizona, California, Nevada, New Jersey, North Carolina, Oregon, Virginia or Washington, you will be able to redeem your coupon *only* from November through April. Please carefully read these limitations on the coupon.

2. **Prepare the tank:** Before the embryos arrive, find a location for your aquarium and set it up. Using gravel, pebbles, or any other material in the bottom of the tank is not recommended as the tadpoles could easily mistake it for food and it will make cleaning more difficult. Fill the aquarium to ½” from the top with bottled spring or drinking water, or well water. City tap water can be used as long as a chemical for removing chlorine (available from pet stores) is added first. Do not use distilled water as it does not have sufficient mineral content for the embryos to develop. Put the lid on the tank and leave it to settle.

3. **Arrival:** The embryos will be shipped in a plastic bag packed inside a padded envelope. Open the envelope as soon as you receive it. Float the bag with the embryos inside in the aquarium to equalize the water temperatures. After approximately one hour, carefully open the bag and pour all of its contents into the aquarium.



4. **Feeding:** Newly hatched tadpoles will feed off of their yolk sacs for as long as possible, so do not put any food in the aquarium until the tadpoles begin to swim around (this could take several days). When they start swimming, place one pinch of powdered tadpole food in a corner of the aquarium daily. Remove uneaten food with the plastic pipet before adding fresh food. Please refer to the Care Sheet for the type of embryos you received for more complete instructions on feeding and caring for your tadpoles and frogs.