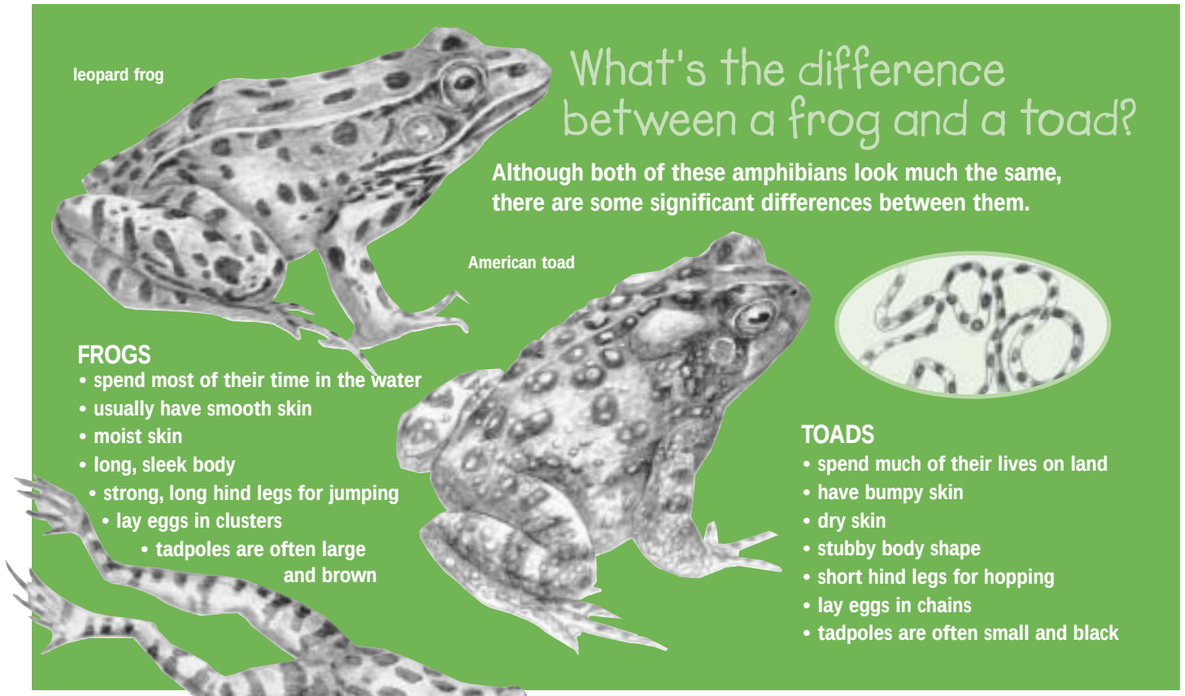


What's the difference between a frog and a toad?

Although both of these amphibians look much the same, there are some significant differences between them.

FROGS
- spend most of their time in the water
- usually have smooth skin
- moist skin
- long, sleek body
- strong, long hind legs for jumping
- lay eggs in clusters
- tadpoles are often large and brown

TOADS
- spend much of their lives on land
- have bumpy skin
- dry skin
- stubby body shape
- short hind legs for hopping
- lay eggs in chains
- tadpoles are often small and black

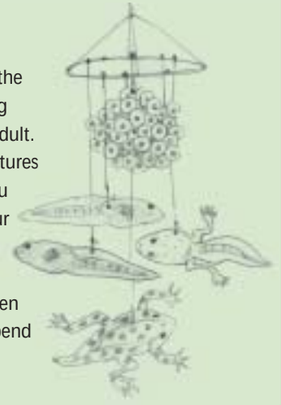
When the weather is stormy and you can't go out to find froggy friends in their natural habitat, try the following activities.

Frog-filled Adventures

➤ Write down as many different words that can you think of using only the letters in this phrase. (answer at the end)

Frog-filled Adventures

➤ Make a Frog Mobile to show the changes that take place during metamorphosis from egg to adult. You can trace some of the pictures in this Nature Note to help you make your mobile. Colour your pictures and attach a piece of string to each. Tie each string to a metal hanger that has been stretchedinto a circle and suspend it from the ceiling.



ANSWERS TO FROG-FILLED ADVENTURES: Here are some words that we found. Thereare over 500 possibilities, how many did you find?
a, ad, age, air, an, ate, all, ant, at, are, advent, dad, dead, dear, deer, den, dens, den-ture, dentures, deal, dial, died, dill, do, doll, dolls, dive, droll, dust, eel, eels, elf, elves, end, endure, eon, eve, even, ever, event, fast, fed, fear, fog, fill, filled, fills, frill, frills, fig, figs, foe, foil, free, gas, garden, gear, gill, glue, go, goal, goat, gold, i, ill, in, is, it, lad, lag, laid, lair, led, leg, lend, lent, learn, lie, life, load, lore, no, nose, not, near, nil, node, null, oar, oat, odd, oil, old, ore, oven, rag, rage, raid, rare, read, rear, red, rent, road, roar, rust, sad, sag, sage, said, send, sent, sill, sir, sire, sold, sore, tag, tan, tear, tend, tent, till, tile, toad, toil, told, tore, trade, urn, van, vase, vast, vest, vent, vents

FOR MORE INFORMATION ON FROGS IN ONTARIO

From the Federation of Ontario Naturalists:
Wetlands book, Life in a Marsh Nature Note, Life in an Ontario Wetland poster, Ontario Reptiles and Amphibians poster

Other publications:
Familiar Amphibians and Reptiles of Ontario by Bob Johnson
Introduction to Canadian Amphibians and Reptiles by F.R. Cook

Amphibians on the Web:
Canadian Reptile and Amphibian Conservation Network
http://www.eman-rese.ca/partners/carcnet/biology/a_0.htm

USGS (US Geological Survey)
http://www.npwrc.usgs.gov/narcam/idguide/index.htm#rana

Adopt-A-Pond
http://www.torontozoo.com/adoptapond/guide/frogs.html

Ontario Herptofaunal Atlas
http://www.mnr.gov.on.ca/MNR/nhic/herps/ohs.html

Frog Watch http://www.naturewatch.ca/english/frogwatch/on/

Natural Resources Canada
http://www.glfc.cfs.nrcan.gc.ca/landscape/frog_e.html

Reviewers: Sarah Ingwersen, Adopt-a-Pond Coordinator, Bob Johnson, Curator of Reptiles and Amphibians, Toronto Zoo, Copy Editor: Joan Clark, Editor: Helen D. Gault , Printing: MPH Graphics Inc.

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Supplement to SEASONS, Spring, 2003

Written by Kerry Everitt
Design and illustrations by Judie Shore

The Life of an Ontario Frog
It's not easy being green

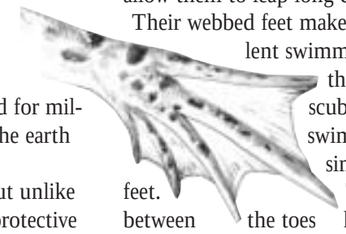
leopard frogs

DID YOU KNOW... Many frogs can launch themselves over 20 times their body length. That's like you jumping more than 25 metres – almost the length of two transport trucks!

It's not easy being a frog in Ontario. Between diminishing wetlands and freezing winter temperatures, frogs have a tough time here. But did you know that one species of Ontario frog has a type of "antifreeze" in its blood that allows up to half of its body to freeze in frigid winter weather? Holy frozen-frog-cubes! Read on to learn more about these amazingly adaptable amphibians.

Frogs and toads are amphibians, which means "double life." Amphibians begin their lives in the water as eggs and then tadpoles, and later move onto land. They are "ecto-therms," which means that they rely on the sun and their surrounding environment to control their body temperature. There are over 5,000 species of amphibians, including frogs, toads and salamanders throughout the world — a lot considering there are only about 4,600 mammal species worldwide! Amphibians have been around for millions of years. Frogs hopped the earth before the age of dinosaurs!

All amphibians lay eggs, but unlike bird's eggs that have a hard, protective outer layer, amphibian eggs are soft and must be laid in a moist area. Although they live in or near water, frogs do not have gills like fish. They have lungs much like yours. Most amphibians breathe through their mouths and noses like you do, and they can even “breathe” through their skin!



Frogs have strong hind legs, which allow them to leap long distances. Their webbed feet make them excellent swimmers. Flippers that people use scuba diving and swimming are similar to frogs' feet. The webbing between the toes help people wearing flippers (and frogs) swim faster by increasing the surface area. The next time you are splashing in water trying to keep cool on a warm summer day, try swimming with and then without flippers. Which way allows you to swim faster? Why?

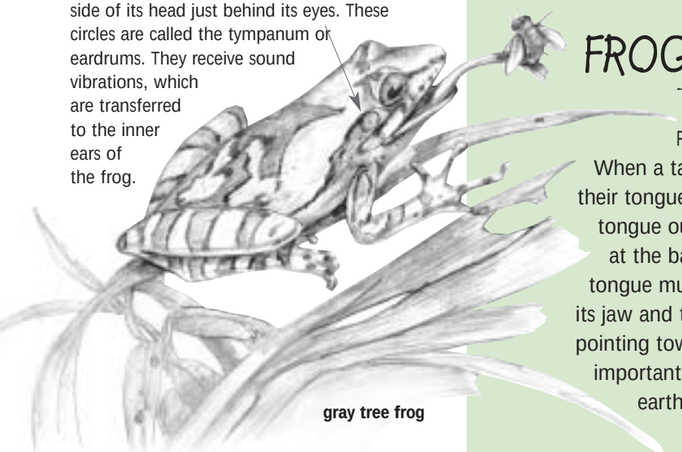
Federation of Ontario Naturalists

HOME SWEET POND IS DISAPPEARING

Frogs require a wet or moist habitat to reproduce and live. They live in wetlands, ponds and gently flowing streams or along the shores of lakes. During the past 150 years, nearly 80 percent of Ontario's wetlands have been destroyed. Besides being home for frogs and other creatures, wetlands are important for recreation and research, as well as water and pollution control. Wetlands are drained for housing developments, farms, factories and shopping plazas, greatly reducing frogs' habitat. Without wetlands, where will frogs live?

Frogs absorb pollutants and other chemicals through their thin, porous skin. Many frogs are poisoned by the toxic chemicals from factories, sewage treatment plants and waste disposal. Amphibians are declining because of loss of habitat, road kills, people who collect them, pesticides, herbicides, disease, ultraviolet light and acid rain. Introduced species compete for food and space, as well as prey on frogs and alter their habitat.

A frog's ears are the large circles on either side of its head just behind its eyes. These circles are called the tympanum or eardrums. They receive sound vibrations, which are transferred to the inner ears of the frog.



gray tree frog

Life Cycle of a Frog
Metamorphosis

Each spring, breeding begins with a loud chorus of male frogs singing to find a mate. In some wetland areas, the chorus can be nearly deafening! Each species of frog has a distinct call.

The number of **eggs** laid in the spring and the length of time they take to develop into an adult frog varies with the species. For example, a bullfrog's eggs take four to six days to hatch and the resulting tadpole can take two years to metamorphose (transform) into an adult. But for most species the average length of time from an egg to a tadpole and finally to an adult is about two months.

A **tadpole** does not look like anything like a frog! It has a mouth, tail and gills. Because it has gills like a fish, it must remain in the water to breathe. A newly hatched tadpole does not venture far from the protection of the grasses and aquatic vegetation where it hatched. It eats algae and other microscopic animals and plants.

When a tadpole grows tiny front and back legs, it begins to "absorb" its tail. At this time, the **tadpole/froglet** doesn't eat because its mouth and digestive system are changing so that it can become a carnivore (meat eater).

By the time the tadpole develops arms and legs and begins to "absorb" its tail, it is called a **froglet**. This creature will continue to grow into an adult and next spring will join in the lively chorus (if it's a boy!) to attract a female.

FROG FOOD Why are frogs so happy? They eat whatever bugs them!

Frogs have an amazing way of catching their prey. When a tasty snack wanders too close, they simply stretch out their tongue and SNAP, dinner is served! How far can you stick your tongue out – can you touch your nose? Your tongue is attached at the back and bottom of your mouth. A frog can stick out its tongue much, much farther because it's attached near the back of its jaw and the tongue is folded with the tip facing backwards, pointing towards the frog's throat! Its lightening-fast reflex is an important hunting adaptation to capture flies, spiders, beetles, earthworms and other types of creepy-crawlie!

WHERE DO FROGS GO IN THE WINTER?

Hopping all the way to Mexico or South America would be quite a feat for a little frog. No, they don't follow the birds that migrate; instead, they stay and avoid the cold weather by hibernating. Some species of frogs will find a cozy spot under the water and mud of a lake, river, pond or stream to bed down for the long, cold winter months. Others, like the wood frog, spend the winter under the leaf litter in a wooded area. The wood frog has a high concentration of sugar in its blood and cells, a natural "antifreeze" that allows it to withstand very cold temperatures. In fact, up to half of this vertebrate's (animal with a backbone) body fluids can freeze without causing any harm to the frog.

DID YOU KNOW...

The smallest frog in North America is the little grass frog. It is only about the size of a dime!

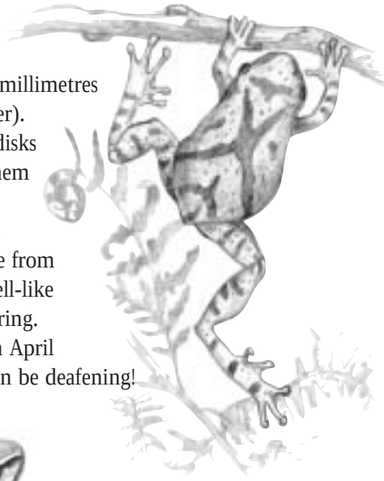
The largest frog is the Goliath frog found in Africa. It can be over 30 centimetres long (the height of this Nature Note) and can weigh up to three kilograms (the same as a small house cat)!

DIAL AN AMPHIBIAN

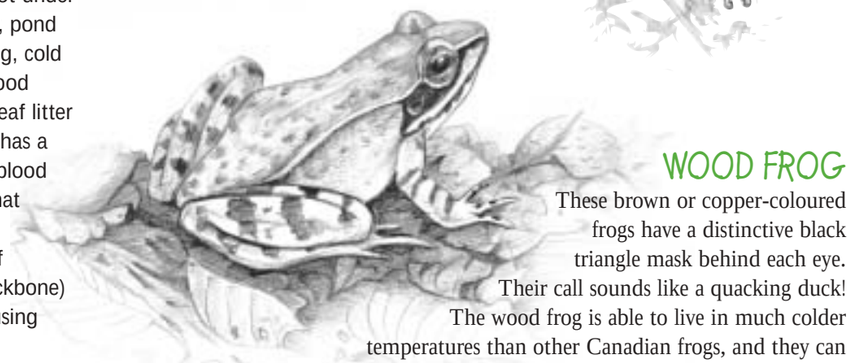
To hear Ontario frog and toad calls, dial 1-888-31 FROGS, then 333 333 and then * .

Here are just a few of the amazing and exciting frogs that you can see or hear while hiking in Ontario.

SPRING PEEPER

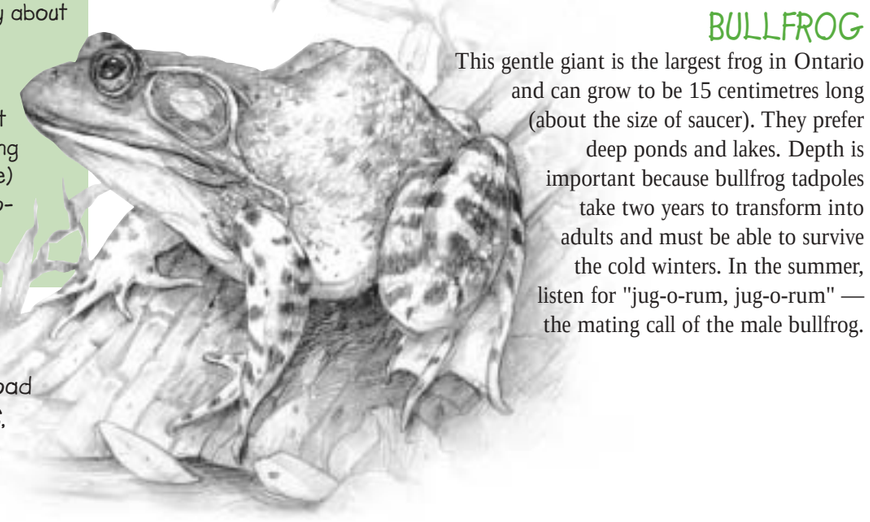


These tiny frogs are only about 25 millimetres in length (about the size of a quarter). On the end of their toes are small disks that act like suction cups to help them climb. They are brown with a distinctive dark "X" on their backs. This pint-sized peeper gets its name from the short and VERY loud, sleigh-bell-like "peep, peep" call it makes in the spring. During the peak breeding season in April and May, the call of many males can be deafening!



WOOD FROG

These brown or copper-coloured frogs have a distinctive black triangle mask behind each eye. Their call sounds like a quacking duck! The wood frog is able to live in much colder temperatures than other Canadian frogs, and they can be found in every province as well as the territories. In fact, they are the only North American amphibian found north of the Arctic Circle. **Now that's one cold-blooded creature!**



BULLFROG

This gentle giant is the largest frog in Ontario and can grow to be 15 centimetres long (about the size of saucer). They prefer deep ponds and lakes. Depth is important because bullfrog tadpoles take two years to transform into adults and must be able to survive the cold winters. In the summer, listen for "jug-o-rum, jug-o-rum" — the mating call of the male bullfrog.