

Frogs, Toads and Salamanders



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Green frogs (above) and spotted salamanders (below right) are among the more common amphibians found in New Hampshire today.

Cold-blooded Cousins

Amphibians are cold blooded. They have moist skin and no scales. Salamanders are silent amphibians. They have legs and a tail, but no eardrums, so they don't make noise; they wouldn't be able to hear each other!

Frogs have no legs when they're swimming around as tadpoles; as adults, they have no tails. Adult frogs have eardrums (near their eyes) and attract their mates by making noisy calls. Toads are a kind of frog. Amphibians don't all reproduce the same way: frogs fertilize their eggs outside the body, and salamanders generally fertilize eggs inside the body.

Hop to it and turn the page!

Amphibians: Animals with Two Lives

What does a tadpole change into? That's right – a frog! Amphibians like frogs, toads and salamanders, live a double life. When they are young, they hatch out of eggs into a larval stage (like tadpoles), in which most live in the water. In their adult stage, they spend part of their time on land. If you want to see amphibians, take a flashlight to a pond on a rainy spring night. But remember, always handle them with *wet* hands and put them back where you found them!



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TUNE IN TO Frog Calls

If you want to find frogs, follow your ears! The best way to locate frogs is by listening for them at night, when the wetlands come alive with a chorus of peeping, whistling and croaking. You've probably heard spring peepers making their high-pitched bell-like whistling song in the early spring, but did you know all that racket is made by little frogs as small as your thumb?



© Steve Roble Photo

Spring peepers calling (above) and mating (below).

Other frogs, like the bullfrog, are much bigger. Listen for the bullfrog's deep, booming "jug-o-rum" call later in the summer.

Sounds made by frogs and toads are very important during mating and courtship. Only the males sing. Most frogs have at least two different calls; some have more. Advertisement calls tell female frogs, "I'm here, pick me!" They also let other males know that a territory is taken. Another kind of song, called a courtship call, is given by males and some females shortly before they mate. During egg-laying, the males climb on the backs of the females. A release call may be given after mating has taken place. There are also defensive calls that adults and young of both sexes make when startled or attacked.



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Pickerel frog
A short snore



Wood frog
Duck-like quack

© Alan Briere Photo



Bullfrog
"Jug-o-rum"

© Alan Briere Photo



Mink frog
Sounds like a rapid series of hammer blows

© MHI DWR Carol Hall Photo

LS OF THE

WILD

Spring Peepers

High, bell-like whistle

American Toad

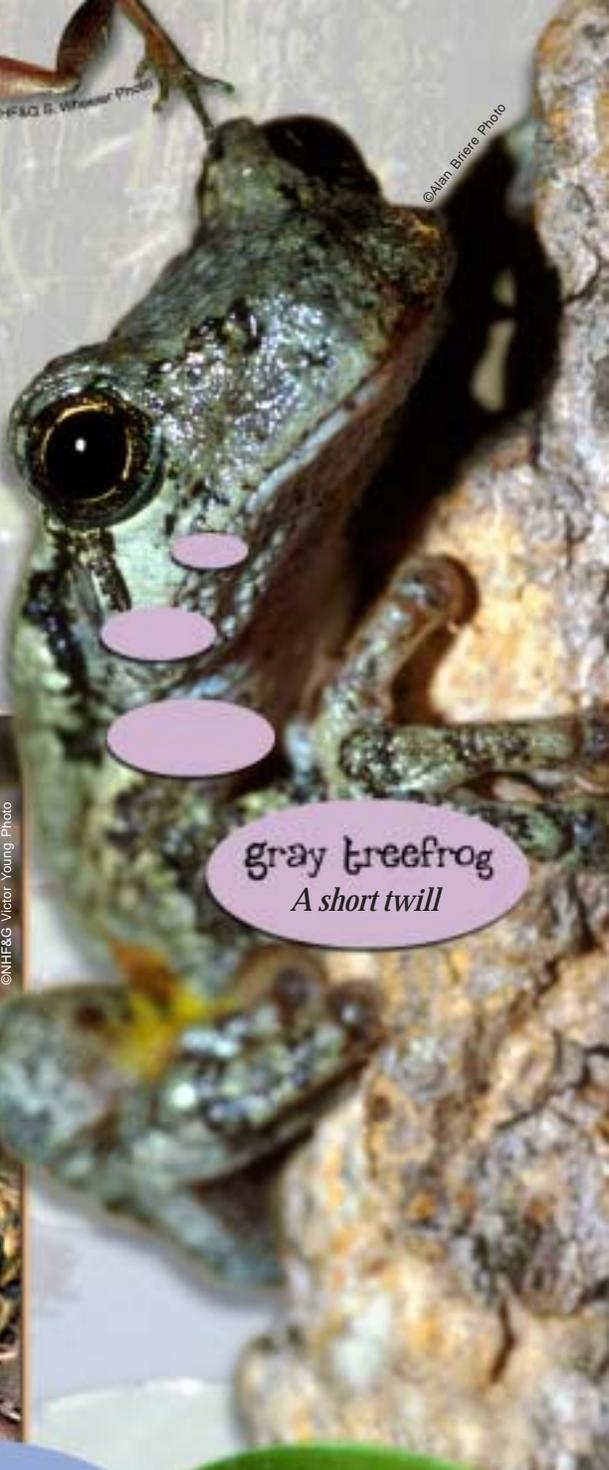
A long twill



©NHF&G Victor Young Photo

gray treefrog

A short twill



©Alan Briere Photo

Northern leopard frog

Sounds like a thumb pulled slowly across an inflated balloon



©NHF&G Victor Young Photo

green frog

Dull twang, like a banjo



© NHF&G Victor Young Photo

Salamanders and Newts

WHERE TO FIND SALAMANDERS

Salamanders are relatively easy to identify because of their smooth skin, long tail and four legs. Some adult salamanders are found only in water, while others are only terrestrial (found on land); still others spend some of their time in water and some on land. They are usually small and remain hidden from view.

Have you ever seen a salamander?



Red-backed Salamander

Believe it or not, the red-backed salamander is our most common land animal. Most of us have never seen a redback, because they are creatures of the forest floor, hiding under rocks and logs and in the forest litter. In mid-summer, the female deposits 3-14 eggs on the roof of a cavity in a rotting log or in the leaf litter. She remains with the eggs until they hatch in late summer or early fall. The larvae complete their transformation while in the eggs, so they emerge as adults.

Mudpuppy

The mudpuppy is an aquatic-based salamander, living its entire life in the water. This salamander shouldn't be here; it was introduced into some of New Hampshire's rivers by accident. This large salamander may be over a foot long! It is always found in running water. A permanent larval form, it has bushy red gills throughout its life.



Red-spotted Newt

This is New Hampshire's state amphibian. Many of us have seen the brightly colored, reddish-orange land form of the red-spotted newt. At this stage, it's called an "eft." The life history of the newt is slightly different from other salamanders. Newt eggs are laid singly and are attached to an underwater plant. The larvae hatch in about a month. After three months, young efts emerge from the water.

This is when they are bright orange. Look for them in moist woods. After one to three years, the efts return to the water to mate and lay eggs, remaining there for the rest of their lives. An adult newt is greenish brown with red and black spots. They are often seen in the shallow waters of clear lakes and ponds.

THE LIFE CYCLE OF AMPHIBIANS

Adult salamanders feed on practically anything that moves, including other salamanders.



Eggs are laid in clumps, sticking to an underwater branch.



Larvae feed on algae and other vegetation.



Eggs develop into tadpoles. The tadpoles or larvae feed on algae.



Tadpoles leave the water, some still carrying tails.



Frog and toad eggs form jelly-like clumps.

WOOD FROG



As adults, frogs and toads feed on insects.



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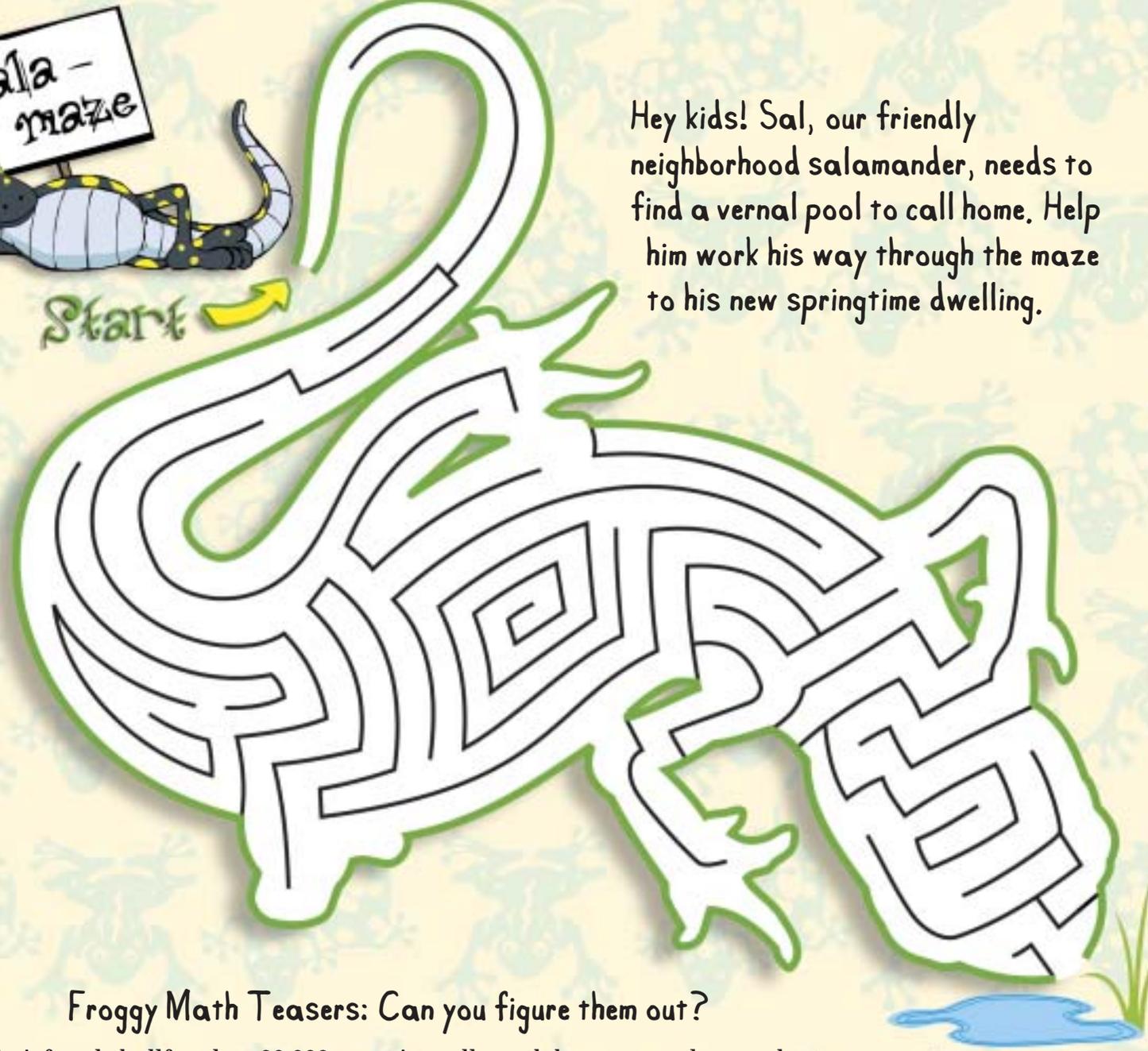
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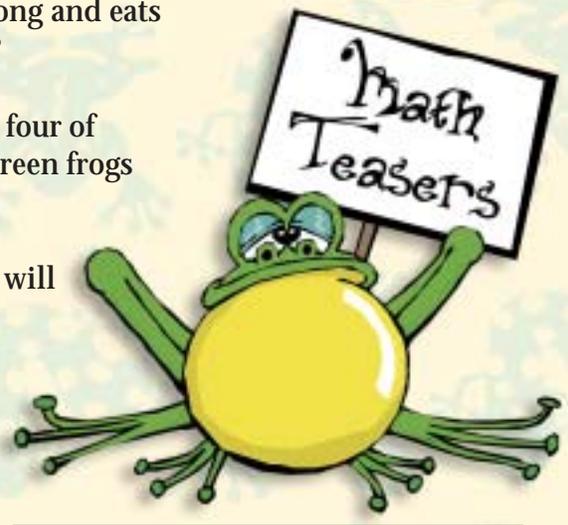


Hey kids! Sal, our friendly neighborhood salamander, needs to find a vernal pool to call home. Help him work his way through the maze to his new springtime dwelling.



Froggy Math Teasers: Can you figure them out?

1. A female bullfrog lays 20,000 eggs. A smallmouth bass comes along and eats 75 percent of the eggs. How many eggs are left to develop into tadpoles?
2. There are 50 adult green frogs in a pond. A great blue heron eats four of them, and a largemouth bass eats half the remaining frogs. How many green frogs are left?
3. An American toad eats 500 insects in a night. How many insects will it eat during the month of July?



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ANSWERS TO MATH TEASERS
1. 5,000 eggs
2. 23 frogs
3. 15,500 insects