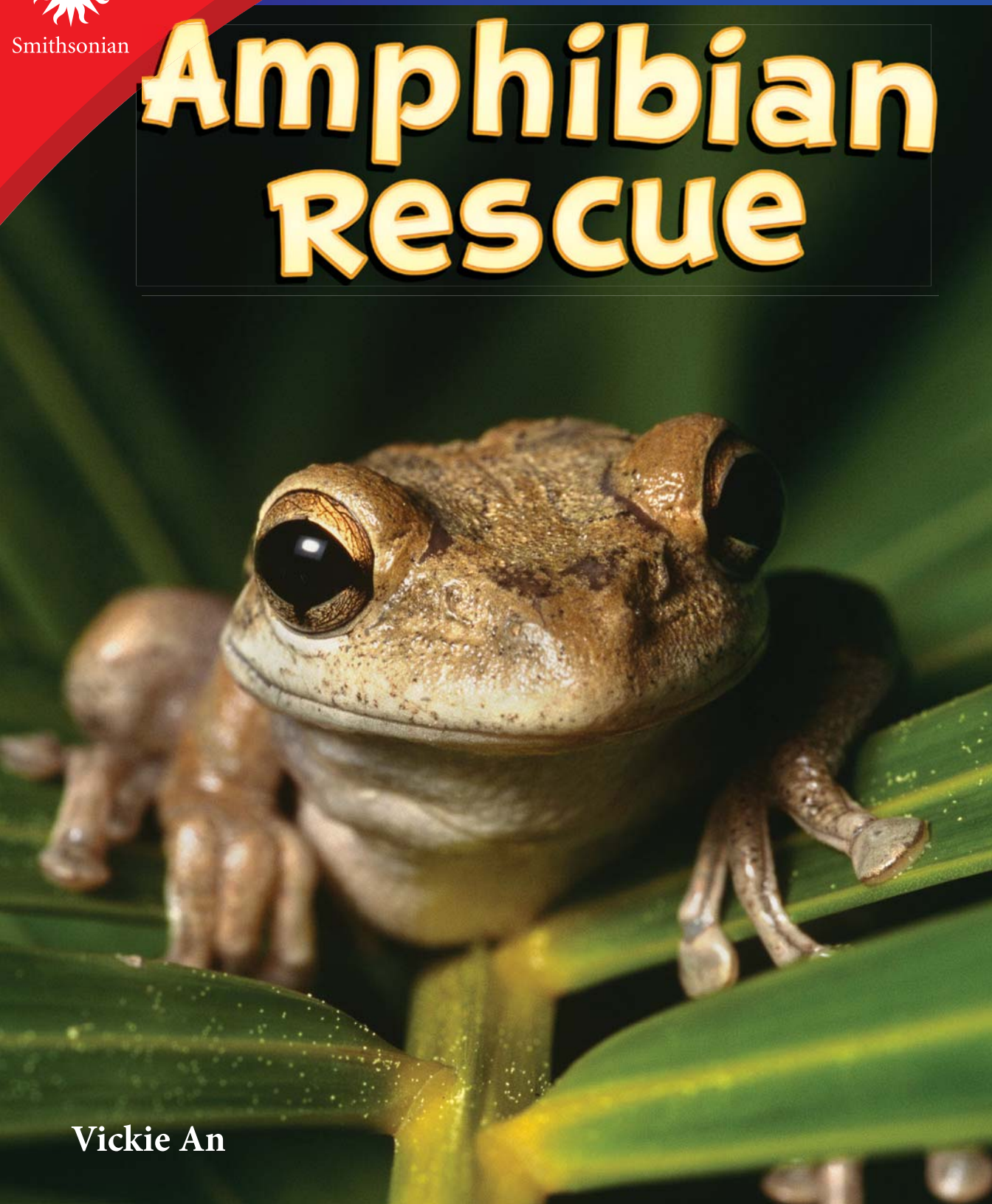
Smithsonian

Amphibian Rescue



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Awesome Amphibians

Frogs, toads, newts (NOOTS), and salamanders are pretty amazing. Did you know that frogs and toads use their eyes to push down food when they swallow? Did you know that salamanders and newts can grow new **limbs**? There are also some frogs that can jump 20 times their body length. But, all of these animals have something in common. They are all **amphibians** (am-FIH-bee-uhnz).

Amphibians comes from Greek words. *Amphi* means "two" or "both." *Bios* means "life." Amphibians lead two lives. Most spend part of their lives in water. But they also spend time living on land.

Amphibians can be found all over the world. They live in streams, rain forests, deserts, and everywhere in between. There are more than 7,500 kinds of amphibians. Many of them are in danger. But help is on the way.

Tadpoles grow up to be frogs that live on land.

The Chinese giant salamander is the biggest amphibian in the world. It can grow up to 1.8 meters (6 feet) long.

Red-spotted newts are amphibians.

A Vanishing Act

Scientists are worried about amphibians. More than 120 kinds of frogs and salamanders have gone **extinct** in the past 40 years. That means they have all died. They no longer exist. Nearly half of all amphibian **species** are at risk. Now, there's a race to save them.

Almost all amphibians have thin, moist (MOYST) skin. They drink through their skin. Their skin also helps them breathe. This makes them sensitive to their surroundings. Even a slight rise in temperature can have a big effect on amphibians.

Hot weather can lead to droughts (DROWTS). These are long periods of no rain. Ponds and swamps dry up. Most amphibians lay their eggs in water. When ponds dry up, they have no place to go.

A frog lays its eggs.

Frogs have tongues that attach to the fronts of their mouths, not the backs like humans. When they hunt, they flip out their tongues to catch food.

More Troubles

Loss of habitat is another problem. A habitat is the home of an animal. Humans are destroying the areas where amphibians live. They are cutting down forests and draining **wetlands**. They want to use the land to build houses, farms, and shops. New buildings take the place of swamps and ponds. As a result, amphibians are losing their homes. Frogs have had it especially hard.

Why Does It Matter?

A decrease in the number of frogs can cause big problems. Frogs play a key role in the food chain. They eat all kinds of insects. Imagine how many more bugs would be buzzing around if not for frogs. Frogs are also food for birds, reptiles, and mammals. Plus, frogs tell us a great deal about the health of an environment. How? When they start dying in large numbers, it's a sign that something is wrong.

Amphibians are cold-blooded. This means they cannot control their body temperature on their own. Amphibians often warm themselves by sitting in the sun.

Construction damages these wetlands.

A frog eats an insect.

STEAM CHALLENGE

Define the Problem

Scientists in Panama want to develop another tool to catch frogs in the wild. They found that the chytrid fungus spreads to scientists' skin too easily with the current method. Can you create a safe and effective tool?

Constraints: Your design must be created using everyday household items and materials.

Criteria: You will test your design by using the tool to collect an object in and around a water tank.

1 Research and Brainstorm

Where do scientists collect the frogs? What do scientists currently use to collect frogs? What are the most important parts of a tool to catch frogs?

2 Design and Build

Sketch the design of your tool. What purpose will each part serve? What materials will work best? Build the model.

3 Test and Improve

Use your tool to collect an object. Did it work? How can you improve your tool? Modify your design, and try again.

4 Reflect and Share

Is the model strong enough to be used again? What other materials could you use to make a tool? Could the scientists use this tool for something else?