

BROMELIAD BABIES GAME

This game explores the role that bromeliads, a type of plant, play as habitat-builders in the rainforest canopy. In this case, these plants become a nursery for baby frogs, called tadpoles. In addition to the obstacle course game, we've included some information about some of the frogs that use these plants to take care of their babies. It is up to you how much information you'd like to include when explaining the game, but this background information can help guide additional research you and your young ones might want to do.

What your obstacle course will look like depends entirely on what you have around your home to build it. This activity is great for outside play, but is also a great way to play inside when it's too hot or cold outside. We recommend this game for children ages four and up.



Where these leaves join at the base becomes a tiny pond just right for strawberry poison dart frog babies!

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WHAT ARE BROMELIADS?

We're going to start by talking and thinking about the rainforest! Who lives there? What does it look like? Imagine a layered cake. Each level of the rainforest is home to different plants and animals—and the frosting, at the very top, is called the canopy! The canopy is made up of the tallest trees, and their **epiphyte** friends! Epiphytes are plants that grow on larger plants without harming them. There are many examples of epiphytes at the Conservatory, including spanish moss, many kinds of orchids, air plants, and ferns.

Epiphytes cannot get water and food from the ground, but they also do not take any from the tree they're growing on. Instead, they use special structures in their leaves and roots to absorb nutrients from the air, the rain, and the material (rotting leaves, debris, etc) that collects on tree branches. The epiphyte we're focusing on today is a **bromeliad!**

These plants have a special power—they can build habitat. In many species, a pool of water forms in the center of the plant where the leaves connect. These are called plant pools, or **phytoelmata!** These pools are important to the survival of many animals, like frogs! Many species of adult tree frog come to pools to hunt for insects. Some species, like the Bromeliad tree frog, lay their eggs in the pools, where they grow into adults! Strawberry poison dart frogs lay their eggs on leaves on the forest floor. The male guards the eggs until they turn into tadpoles. Then, the female carries them on her back, one by one, up to the canopy to put them in a bromeliad pool! [Here's a National Geographic video about how the frogs carry their babies.](#)

This is a really big challenge for a really tiny frog! To see how tough this is, create an obstacle course and try being a strawberry poison dart frog yourself!



This strawberry poison dart frog is a diligent parent and carefully works to carry its tadpoles one by one to their new home. Photo by Marshal Hedin from San Deigo

SUPPLIES

- For a starting line: a jumprope or chalk line
- For vines to “climb”: jumpropes, long ribbons, or chalk to make lines
- For a tree to go up: stairs, a hill, or articles of furniture that are okay to climb
- For a bromeliad: a mixing bowl or cup
- For predators: safety cones or plush toys
- For tadpoles: small objects like pebbles, Cheerios, or water beads
- For extra difficulty: a spoon to carry tadpoles

ACCESSIBILITY NOTE

For learners with disabilities, make the obstacle course wide enough allow wheelchairs, walkers, and crutches through. You can add additional challenges by creating unique and uneven textures for users to travel over.

SET UP THE OBSTACLE COURSE

Explain to the “frogs” that our goal is to get the tadpoles safely from their leaf (starting line) to the bromeliad (bowl or cup). We are all working together—when all the eggs have made it to the bromeliad, we win! However, we have some challenges.

- Frogs (your young ones) can only carry tadpoles one at a time! (For an extra challenge, carry

tadpoles balanced in a spoon!)

- On your way, you have to balance and walk along a vine, dodge predators by circling around them, and climb up a tree!
- Transport as many tadpoles as you can! If you run out, rearrange the obstacle course for extra challenges, and repeat!

Arrange obstacles in between the starting line and the bromeliad. If you have extra obstacles, like a play tunnel or agility ladder, feel free to add them in as well! Your obstacle course can be as long, short, or challenging as you want! Let your frogs design the course (inspired by the videos they watched) and figure out where the predators are they have to go around to keep the baby tadpoles safe.



The materials for the obstacle course can involve whatever you have on hand. If the weather isn't cooperating, try moving inside instead.



For older frogs, consider adding additional challenges. This frog is carefully carrying the tadpole using a spoon in their mouth.



Success! Getting the tadpoles to the bromeliad is hard work, but our frogs did it!

PLAYING THE GAME

Once the course is set up, and you've got your baby tadpoles, it's time to start moving them to their new bromeliad home!

For extra difficulty:

- Have your frogs try carrying their tadpoles in a spoon as they go through the obstacle course.
- Set a timer to see if each frog can beat their previous times going through the course. Remind the frogs to be careful to make sure that the tadpoles (and themselves) get through safely!
- Try adding new routes or rules once the course gets too easy. For example, maybe your frogs have to move by crawling or hopping.

QUESTIONS TO PONDER

Here are some questions for you and your frogs to ponder once you're done with the obstacle course:

- Do you know the life cycle of frogs? Pull up an image, or draw it together, to help you remember.
- What types of animals do you think could live inside a bromeliad besides a frog? What kinds of animals could hunt, drink, or hide there? Think of some possible answers together.
- What was the biggest challenge of getting eggs to your nest? What OTHER challenges do you think these frogs would face in the rainforest?
- How does the bromeliad help keep frog babies safe?
- Do you think the frogs help the bromeliads? Take guesses! Plants need fertilizer. In the rainforest this usually comes from rotting organic matter, like compost. This is harder to get if you don't live in soil—like epiphytes! Frog poop and the leftovers from frog meals, like pieces of insects, act as fertilizer for bromeliads!

SHARE YOUR EXPERIENCE!

Post about your adventures and tag us at @gpconservatory or use the hashtag "#GPCatHome"! This work is supported in part by a grant from PNC Foundation.

