

Journal of Student Research on Puget Sound



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Frogs of Costa Rica



Developing curiosity and confidence through student-led scientific research on the waters of the Salish Sea

Frogs of Costa Rica

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Our Investigation

- Observe different sized bromeliads and count the number of amphibian species and the stage of life each amphibian is. We are hoping to find which size and type of bromeliad hosts the highest diversity of life and diversity of stage of life (egg, tadpole, froglet, adult).

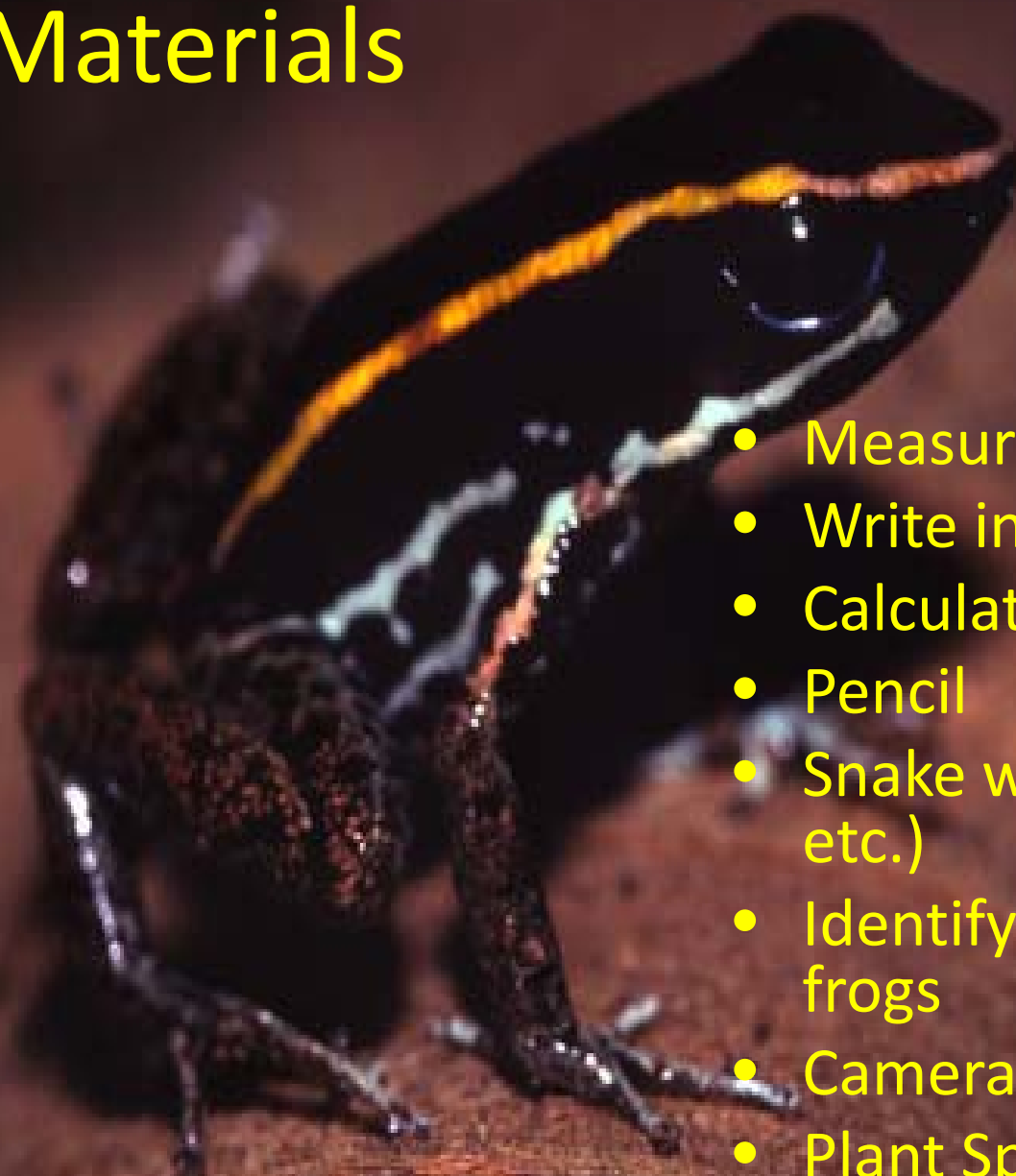


Hypothesis



- The larger the diameter of the bromeliad's cup, the more amphibian species will be present and the higher diversity of life stages there will be.

Materials

- 
- Measuring Tape
 - Write in the rain paper
 - Calculator
 - Pencil
 - Snake weapon (stick, etc.)
 - Identifying handbook of frogs
 - Camera
 - Plant Species Handbook

Procedure

- Record what forest layer we are in.
- Identify the species of bromeliad and the species of frogs
- Record a life stage tally of all the frogs/eggs
- Measure the cup diameter and then the water volume (do volume when you get back at the lab).
- Record any other things you notice about the area and any other animals in the bromeliad and vicinity.



In The Field

- Noah and I searched for bromeliads near the ground in areas close to clearings.
- We observed about 10 bromeliads that we could look in at ground level. Sadly, none of them contained frogs.
- With experiment time running out, we aborted the mission and started a makeshift experiment. Find as many frogs as you can find in 15 minutes!

What We Found

- In fifteen minutes we found many frogs. The downside is that they were all the same species.
- We saw 17 “Blue Jeans” Poison Dart frogs around the cabins at La Selva Biological Research Station.
- Other frogs we saw on the trip: Red Poison Dart Frog, Striped Poison Dart Frog, and the Red Eyed Tree Frog.



Our Conclusion Statement:

- Why weren't there any frogs in bromeliads?
- We proposed that most frogs would not risk staying in bromeliads near the ground. If they really wanted to seek shelter from predators, they would climb to a bromeliad high in the
- The bromeliads we found also didn't have a large volume of water. They probably didn't grow large because they were being shaded out by taller trees. Most of them couldn't have hosted frogs anyway.

Conclusion Statement Cont.

The multitude of “Blue Jeans” Frogs we saw were thriving because of the man-made clearing. Deep in the forest, puddles for breeding are basically non-existent.



The trees in the primary forest absorb all the water they can get, but the grassy clearing might regularly flood creating optimal breeding puddles for the “Blue Jeans”.