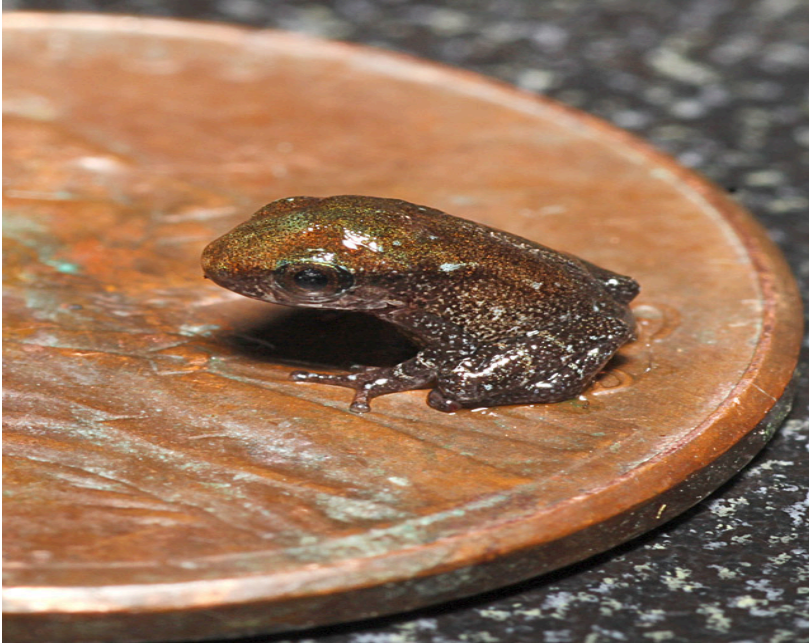


Lesson Materials Document: Lesson: Home is where the Coqui lives!

Coqui Frog Pictures





Coqui size photos



# Vocabulary Word Cards

Directions: Glue the pictures to match the word

whirlpool

tribe

endangered

island

habitat

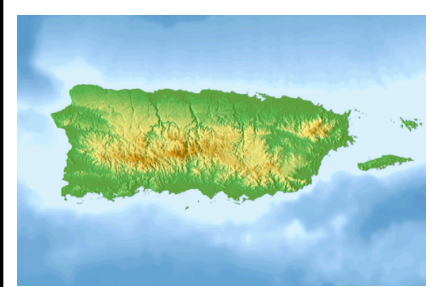
Boriken

Taino

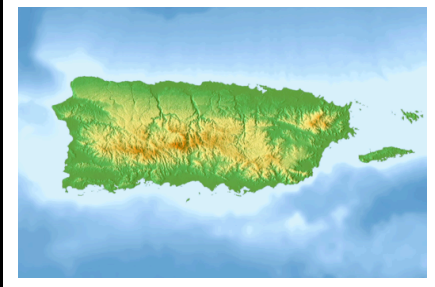
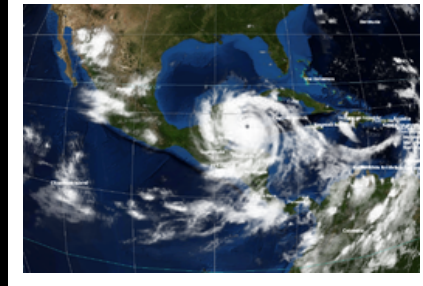
hurricane



Vocabulary Picture Cards  
Directions: Cut the pictures out



Directions: Cut the pictures out



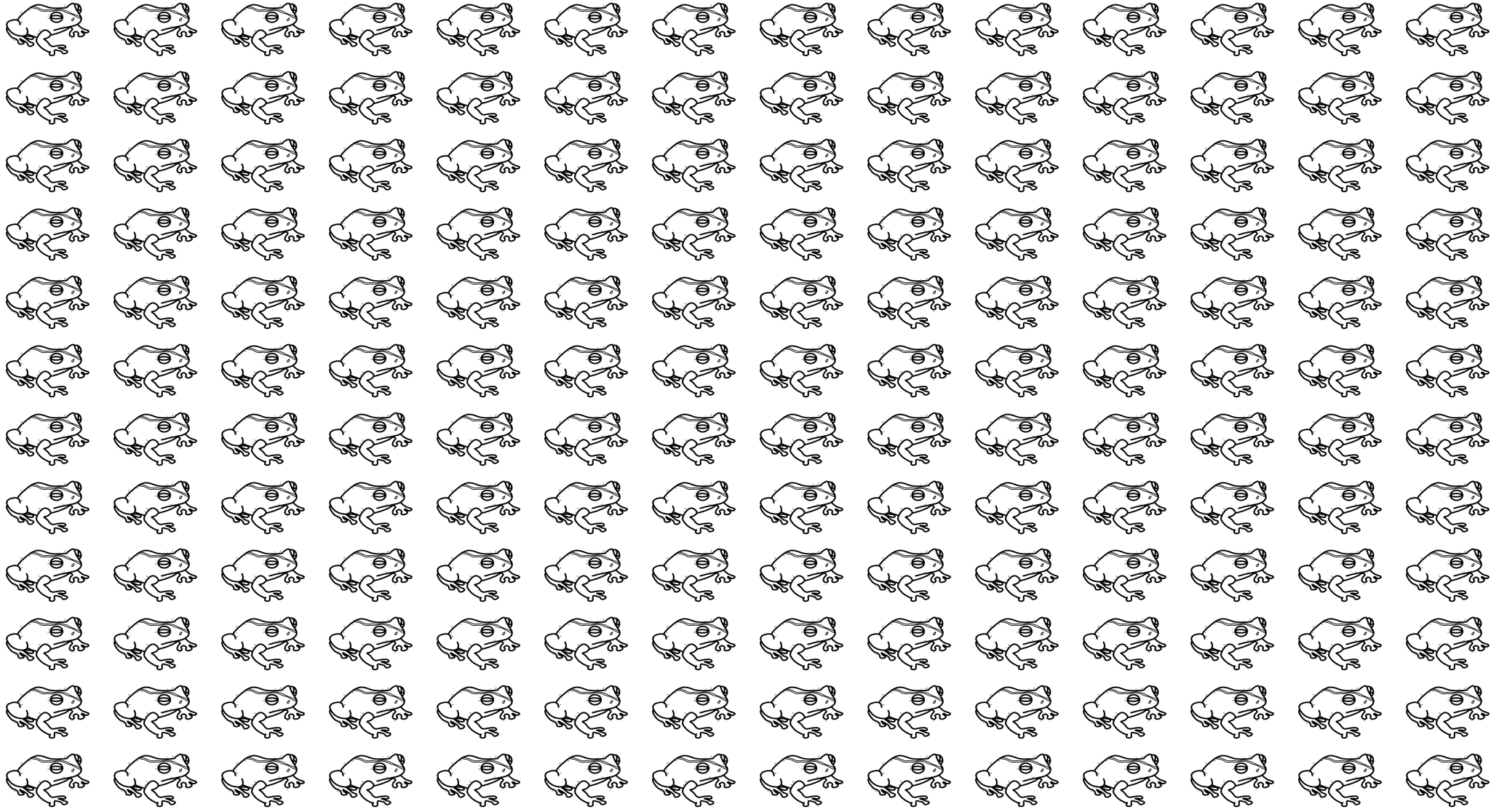


Physical map of Puerto Rico showing regions with Coquí populations





Coqui frog cutouts





# Teacher Resource: Declining populations

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4326090/#:~:text=Documented%20factors%20contributing%20to%20these,2004%3B%20Joglar%20et%20al.>

- Documented factors contributing to these declines include climate warming, extended periods of drought, and a potential synergistic interaction between climate and the Amphibian Chytrid Fungus,
- Documented extirpations( the act of removing or destroying something completely)of *E. portoricensis* at two low elevation (~350 m) localities in El Yunque National Forest in the Luquillo Mountains have been attributed to prolonged periods of drought and warm, dry conditions resulting from Hurricane Hugo in 1989

## Introduction

Puerto Rico is home to 17 species of *Eleutherodactylus* frogs, commonly known as coquis. Of these, three species are presumed extinct ([Burrowes et al. 2004](#)) and 13 species are critically endangered, endangered, vulnerable, or near threatened (IUCN Red List, <http://www.iucnredlist.org> [accessed 20 August 2012]). Documented factors contributing to these declines include climate warming, extended periods of drought, and a potential synergistic interaction between climate and the Amphibian Chytrid Fungus, *Batrachochytrium dendrobatidis* (*Bd*; [Joglar and Burrowes 1996](#); [Woolbright 1997](#); [Burrowes et al. 2004](#); [Joglar et al. 2007](#); [Longo and Burrowes 2010](#)). The infectious disease chytridiomycosis, caused by *Bd*, has been implicated in massive and rapid amphibian die-offs world-wide ([Berger et al. 1998](#); [Lips et al. 2005](#); [Fisher et al. 2009](#)) and *Bd* has been found in Puerto Rico dating back to 1976 ([Burrowes et al. 2004](#)). In light of recent amphibian declines and local extirpations in Puerto Rico, it is imperative to survey historical localities to update and verify the continued persistence of populations or the rediscovery of populations thought to have been extirpated (e.g., [Rodríguez-Contreras et al. 2008](#); [Kolby and McCranie 2009](#); [Puschendorf et al. 2011](#)).

The Mountain Coqui, *Eleutherodactylus portoricensis* ([Schmidt 1927](#); [Fig. 1](#)), is listed as endangered by the IUCN Red List (IUCN Red List, <http://www.iucnredlist.org> [accessed 20 August 2012]) and as vulnerable by the Department of Natural and Environmental Resources of Puerto Rico ([Departamento de Estado 2004](#)). A principal occupant of the understory of cool, moist rainforest in Puerto Rico, this frog has been documented at elevations above 180 m in shrubs, palms, herbaceous plants, bromeliads, tree holes, and under rocks, trunks, roots, and leaf litter ([Drewry 1970](#); [Drewry and Rand](#)



[1983](#); [Schwartz and Henderson 1991](#); [Rivero 1998](#)). The species' range spans the Luquillo Mountains of northeastern Puerto Rico and the Cordillera Central ([Schwartz and Thomas 1975](#); [Schwartz and Henderson 1988](#)), which forms the highland “backbone” of Puerto Rico and includes an eastern extension beginning at the city of Cayey (Cayey Mountains; [Fig. 2](#)). Documented extirpations of *E. portoricensis* at two low elevation (~350 m) localities in El Yunque National Forest in the Luquillo Mountains have been attributed to prolonged periods of drought and warm, dry conditions resulting from Hurricane Hugo in 1989 ([Stewart 1995](#); [Woolbright 1997](#)). Additionally, a synergistic interaction between climate and *Bd* may explain population declines of *E. portoricensis* at elevations above 600 m ([Longo and Burrowes 2010](#); [Longo et al. 2010](#)).





**Most Wanted Alive” poster**



**WANTED**









# The Coqui Frog

## Star Rating

How successful was I in achieving my desired result?



Describe where the Coqui frog lives.

A large, empty yellow rounded rectangle box intended for the student to write their answer to the question about the frog's habitat.

What are three (3) reasons the Coqui frog is endangered?

A large, empty yellow rounded rectangle box intended for the student to write their answer to the question about why the Coqui frog is endangered.



**Describe where the Coqui frog lives:**

**Originated in Puerto Rico, & currently living in Puerto Rico, Florida, Hawaii, & the U.S. Virgin Islands.**

**What are 3 reasons the Coqui frog is endangered?**

**1) climate warming, 2) extended periods of drought  
3) build up of human population in the area.**

**What do you think can be done to help the Coqui?**

**Answer will vary per student:**

**Possible answers: provide color habitats for the Coqui to live in.  
provide access to water within their habitats  
Teach humans living in the area how to protect  
Coqui frogs and provide for their needs**

## Summative Assessment Rubric

|                                |   |               |
|--------------------------------|---|---------------|
| <p>Exceeds Expectations</p>    | <p>Student identifies and describe the characteristics of the indigenous frog and where it is native to. and correctly uses many vocabulary words learned in the description. (3 + points)</p> <p>Student explains what is happening to the Coqui frog in Puerto Rico stating 4 or more reasons why they are endangered and correctly uses 2 or more vocabulary words learned in the explanation. (. (4 + points)</p> <p>Student shares 2 or more ways they can help spread awareness for this animal using technology, posters, books, etc. (2 + points)</p> | <p>9 +</p>    |
| <p>Meets Expectations</p>      | <p>Student identifies the name of the indigenous frog and where it is native to. (2 points)</p> <p>Student explains what is happening to the Coqui frog in Puerto Rico stating 3 reasons why they are endangered and correctly uses 2 or more vocabulary words learned in the explanation. (3 points)</p> <p>Student shares 2 ways they can help spread awareness for this animal using technology, posters, books, etc. (2 points)</p>   | <p>7</p>      |
| <p>Approaches Expectations</p> | <p>Student identifies the name of the indigenous frog and where it is native to. (2 points)</p> <p>Student explains what is happening to the Coqui frog in Puerto Rico stating 1 or 2 reasons why they are endangered and uses at least 1 vocabulary word learned</p>   | <p>4 or 5</p> |



|                                   |  |          |
|-----------------------------------|--|----------|
|                                   | <p>in the explanation. (1 or 2 points)</p> <p>Student shares 1 way they can help spread awareness for this animal using technology, posters, books, etc. (1 point)</p>   |          |
| <p>Fails to Meet Expectations</p> | <p>Student identifies the name of the indigenous frog and where it is native to. (2 points)</p> <p>Student is unable to explain what is happening to the Coqui frog in Puerto Rico by stating 0 reasons why they are endangered.</p> <p>Student is unable to share 1 way they can help spread awareness for this animal using technology, posters, books, etc.</p> | <p>2</p> |