

GeoCivics Lesson: Home is where the Coqui lives!

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Teacher(s): Jennifer Roman	Lesson Title:	Grade Level:
	Home is where the Coqui lives!	1st grade

Notes: N/A

Pre-existing Knowledge: Students should have a basic understanding of frogs (size, colors, habitats).

Overview of Content:

"Common coquis are small tree frogs that average 1 to 2 inches in length, with females being slightly larger than males. They have white to yellow coloration on their bellies, speckled with brown, and are brown to gray on their backs. Coquis have highly variable patterning on their backs ranging from no pattern to 1 or 2 broad cream stripes, v-shaped marks, spots, blotches, or a faint "M" between their shoulders. Eye color of the common coqui ranges from gold to brown. Coquis have large toes for climbing and lack webbing on their feet. Coquis are named after the call of the male, which is a loud, whistling "ko-KEE" sound. Unlike most frogs, coquis lay their eggs on the leaves of terrestrial trees and plants rather than in water. The young hatch as developed frogs (froglets) and do not experience the free-swimming tadpole stage. In the United States, coquis have been established in southern Florida and Hawaii, as well as the Dominican Republic and the U.S. Virgin Islands." -- California Department of Fish and Wildlife: https://wildlife.ca.gov/Conservation/Invasives/Species/Coqui

Puerto Rico is home to the indigenous Coqui frog. There are more than 16 species of the Coqui frog, 13 of which can be found in El Yunque National Forest in Puerto Rico. In Puerto Rico, the Coqui population has been declining due to fungal bacteria, natural disasters and human modifications for years.

Purpose: What will students learn?

Students will learn about the Coqui frog; its habitat, physical features, sounds, and the importance to Puerto Rican culture. They will also learn how, in Puerto Rico, the Coqui population has been declining for years due to fungal bacteria, natural disasters, and human modifications, and that it is now considered endangered.

National & State Social Studies Standard(s):

National:

• <u>PEOPLE, PLACES, AND ENVIRONMENTS</u>: The study of people, places, and environments enables us to understand the relationship between human populations and the physical world.

Arizona Social Studies Standard:

• <u>Skills & Processes SP2</u>: Thinking within the discipline involves the ability to identify, compare, and evaluate multiple perspectives about a given event to draw conclusions about that event since there are multiple points of view about events and issues.

Arizona Science Standard

• 1.L4.U3.11 Ask questions and explain how factors can cause species to go extinct.

National & State Geography Standard(s)

National

• <u>Standard 1</u>: How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

Arizona

• <u>1.G1.1</u> Use, explore and construct maps, graphs and other geographical representations to support content focus.

ELA Standards:

- <u>1.RI.4</u> Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- <u>1.W.8</u> With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

ISTE Teacher and/or Student Standard: N/A

Language Functions:

- **Inquiry/Seeking Information:** Students use language to observe and explore the environment, acquire information, inquire.
- **Summarizing and Infoming:** Students use language to identify, report or describe information.
- Inferring, Predicting, & Hypothesizing: Students use language to make inferences, predict implications, hypothesize.

Culturally Responsive Lesson Strategies:

- **VOICE:** Lesson/Assignment allows places for students to work together cooperatively or share their learning experiences.
- ACCESS: Lesson/Activity communicates ideas in several different ways.
- **CONNECTION**: Lesson/Activity incorporates real-life connections and representations from various cultures and life experiences.

Objective(s):

- Students will be able to identify the name of the Coqui frog, describe its physical characteristics, and where it originally was inhabited.
- Students will be able to ask and answer questions about Coqui locations on the map of Puerto Rico.
- Students will be able to describe why the Coqui frog is endangered using vocabulary words from the lesson.

SIOP

	SIOP Elements	
Preparation	Scaffolding	Grouping Option
Adapting content Linking to background Linking to past learning Strategies used	Modeling Guided practice Independent practice Comprehensible input	Whole class Small groups Partners Independent
Integrating Processes	Application	Assessment
Reading Writing Speaking Listening	Hands on Meaningful Linked to objectives Promotes engagement	Individual Group Written Oral

Evidence of Mastery (Measurable)

Formative: **POPCORN!** Ask the class what they have learned so far, then throw a nerf ball (or any VERY soft/nerf object) to a student who has raised their hand and have the student share what they have learned. Then have that student toss the ball to a classmate to share what they have learned, and continue until all students have had an opportunity to share out what they have learned. This involves some classroom management, but is fun! The teacher will make note of the students' responses for use as a Formative Assessment of student learning.

Summative: 1) Students will draw a picture of the Coqui frog on the "Most Wanted Alive" poster (found in Lesson Materials Document), and will respond in writing to three prompts on the *CoquÍ* frog Summative Assessment Worksheet (in the Lesson Materials Document) using what they have learned and will include the use of lesson vocabulary in their responses. The teacher will use the Summative Assessment Rubric (in Lesson Materials Document) to assess students' work with a score of 7 or higher indicating mastery.

Key vocabulary:

- Habitat: Home of an animal or a plant
- **Endangered:** any type of plant or animal that is in danger of disappearing forever
- Taíno: One of the first people to live in Puerto Rico
- Tribe: A group of people that live together and share a common language, the same beliefs/values.
- Island: A piece of land surrounded by water
- Hurricane: A huge storm of wind and rain
- Boriken: Talno name for Puerto Rico
- Whirlpool: Water that is spinning fast in circles

Materials:

- 4 small poster papers, each labeled with one letter - A, B, C or D
- Coqui frog pictures (in Lesson Materials Document)
- Teacher access to computer and projection tool for playing and projecting lesson videos
- 4 frog sound compilation Videos: (Links in Sources below)
- Coquí Frogs UP CLOSE and LOUD Video: (Link in Sources below)
- Coqui size photos showing actual size in comparison to objects (in Lesson Materials document)
- Vocabulary Word Cards (in Lesson Materials Document)
- Vocabulary Picture Cards (in Lesson Materials Document)
- "KIKI KOKI The Enchanted Legend of the Coquí Frog" Book by Ed Rodriguez (Spanish or English book can be purchased at Amazon - See link in Sources below):
- Video: Thunder storm sounds video: (Link in Sources below)
- A Nerf ball (or any <u>VERY</u> soft/nerf object) to use to play POPCORN
- Physical map of Puerto Rico (in Lesson Materials document)
- Video: BioBytes: Coqui Frog Conservation (Link in Sources below)
- Copies of Coqui frog cutouts (16 per group/4 per student) (in Lesson Materials Document)
- Teacher Resource: Declining Populations (in Lesson Materials Document)
- "Most Wanted Alive" poster one per student (in Lesson Materials Document)
- Coquí frog Summative Assessment Worksheet - one per student (in Lesson Materials Document)
- Summative Assessment Rubric (in Lesson Materials Document)

Sources:

• Coqui Frog Pictures:

https://commons.wikimedia.org/wiki/File:Coqu%C3%AD guaj%C3%B3n male JPZegarra (583996 7983).jpg; https://commons.wikimedia.org/wiki/File:CoquiJuvie1Lo_(32849270590).jpg; https://commons.wikimedia.org/wiki/File:CoquiAdult2Lo_(33232448025).jpg; https://commons.wikimedia.org/wiki/File:20140402-APHIS-UNK-0008 (13592977374).jpg

- 4 frog sound compilation Videos :
 - o Coqui frogs UP CLOSE and LOUD!
 - https://youtube.com/shorts/A9A7BovwcFw?si=0rmkFDl6RHdhf935
 - https://youtube.com/shorts/5LscGavxbLc?si=hg4LoEbgMUuWOsd4
 - https://youtube.com/shorts/uQPgiXocKj0?si=jNVNGcl1fhmGtoQ (Gray tree frog)
- Coquí Frogs UP CLOSE and LOUD Video: Coqui frogs UP CLOSE and LOUD!
- Link to purchase "KIKI KOKI The Enchanted Legend of the CoquÍ Frog" Book by Ed Rodriguez on Amazon

https://www.amazon.com/s?k=KIKI+KOKI+The+Enchanted+Legend+of+the+Coqu%C3%8D+Frog&crid=2OXPKESADQH72&sprefix=kiki+koki+the+enchanted+legend+of+the+coqu%C3%AD+frog%2Caps%2C151&ref=nbsbnoss

- Video: Thunder storm sounds: https://youtube.com/shorts/rCX3YOYL2IU?si=u3OlrtMZg WByL-J
- Physical Map of Puerto Rico:
 - https://www.freeworldmaps.net/centralamerica/puertorico/puertorico-physical-map.jpg
- Video: BioBytes: Coqui Frog Conservation https://www.youtube.com/watch?v=10yDGNmWVb8
- Teacher Resource: Declining Populations: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4326090/#:~:text=Documented%20factors%20contributing%20to%20these,2004%3B%20Joglar%20et%20al.
- Most Wanted Alive" poster:
 - https://populationeducation.org/wp-content/uploads/2020/03/wanted-alive.pdf
- Coqui Size Photos: https://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/coqui/; https://www.atlasobscura.com/articles/cave-frogs-puerto-rico-coqui;
- https://www.gettyimages.com/photos/coqui-frog
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Optional Lesson Resources for the Teacher:

- Video: El Coqui Folk Song from Puerto Rico: song FOR FUN! This is a folk song from Puerto Rico sung in both Spanish and English. It is in a virtual chorus format with a percussion activity featuring several teachers. There are several sections to this.
 https://www.youtube.com/watch?v=nK0JAtn5Geg.
- Video: Coquí in the Rainforest: https://www.youtube.com/watch?v=TjnnaU5x22Q

Teacher Will: Part A 1. The teacher will tell students they will be playing a game! Introduce the game of 4 Corners. (4 small posters, each with one letter-

- A, B, C or D-written on it, will be placed on the wall at each corner of the room).
- 2. Teacher will explain and model the 4 corners activity with examples.
 - The teacher will give students time to think about their favorite dessert. Each dessert will be assigned a letter A-D. (for example: A-cupcakes, B-ice cream, C-brownies, D-cookies)
 - b. The teacher will say "Go" for students to walk to the letter in the room that matches the dessert they have picked.
 - c. The teacher will ask students how many students chose each dessert. Students then return to the classroom carpet squares and tell how many students chose their dessert.

(Scaffolding: Modeling)

- 3. The teacher then tells students they will do the 4 Corners activity again, but instead of desserts, they will be hearing and trying to identify different frog sounds. The teacher will explain that they will be learning about the history and importance of the Coquí frog, and will show the students the Coquí frog pictures (in Lesson Materials Document) and have them share what they notice about them from the pictures (their color, shape, size, etc.). The 4 small posters, each with one letter- A, B, C or D-written on it, will still be placed on the wall at each corner of the room.
- 4. The teacher will then play four frog sounds to the class by playing the <u>4 frog sound</u> <u>compilation Videos</u>, and let students know that only one of the sounds is from a Coqui frog, and assign each sound to a letter on the posters- A through D. The teacher will then say "Go" for students to walk to the letter in the room that they believe is the CoquÍ frog sound that they heard.
- 5. The teacher will then play the Coqui frog sounds to the class by playing the Coqui Frogs UP CLOSE and LOUD Video: Coqui frogs UP CLOSE and LOUD! so students can see if they were correct in their selection of corners.

- 2. Follow the teacher's instructions to play the game. The students will show the teacher that they are thinking or have a thumbs up when they know which dessert they like best. Students will walk to the letter that matches the dessert they chose. Students will count how many kids were in each corner for that dessert, and then the students will return to carpet squares to share out the numbers. (Grouping:Whole class/small groups/Independent) (Preparation: Linking to background) (Application: promotes engagement)
- 3. Students will look closely at the CoquÍ frog pictures. Students will share anything they notice about it (the color, shape, size, etc.).

(Grouping: Independent) (Integrating Processes: Listening/Speaking)

4. Students will try to guess which sound is the one that the Coquí frog makes. They will walk to the corner with the letter on the poster that they believe matches to the Coquí frog sound.

(Grouping: Independent) (Application: promotes engagement)

5. Listen to the video sound of the CoquÍ frog and determine if they selected the correct corner poster of the CoquÍ frog.

(Grouping: Whole class/Independent) (Application: promotes engagement)

(Scaffolding: Guided practice)

6. The teacher will also share the <u>Coqui size</u> <u>photos</u> that show their actual size in comparison to objects (in Lesson Materials document), and have the students discuss what they now know about Coquí frogs.

(NOTE): The teacher will provide the following sentence stems to support ELL/SPED students as needed in sharing what they know about Coqui frogs: Sentence Stems:

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Part B

- Teacher will only introduce these 5 vocabulary words orally: Taíno, tribe, island, Bokiren and whirlpool, and have the students repeat the words back orally.
- 2. The teacher will strategically assign students to groups of 4, supporting ELLs/SPED and Gifted students as needed, and give each group copies of the <u>5 vocabulary word cards and 5 pictures</u> at their tables (in Lesson Materials document). The teacher will read aloud one vocabulary word at a time and have the students match up the word to the picture they think represents the word.
- 3. After all groups have matched the pictures to the words, the teacher will explain that now students will listen to the definition of each word and the students will be able to change the picture, if as a group, they decide that they have not matched up the word to the correct picture. The teacher will read the definition of a word one by one and give time for the students to decide if they matched up the words and pictures correctly, or if not, to work together to correct the way they have matched them up.
- 4. The teacher will then reveal the correct matching of each word, definition, and picture

6. The students will view pictures of the CoquÍ frogs' size and engage in a discussion with the teacher about what they now know about CoquÍ frogs. When needed, the students will use the sentence stems provided by the teacher to share what they know about Coqui frogs.

(Grouping: Whole class) (Integrating Processes: Listening/Speaking) (Application: promotes engagement/meaningful)

Part B

 Students will repeat vocabulary words back to the teacher.

(Grouping: Whole class/Independent) (Integrating Processes: Listening/Speaking)

Students will work together in their groups to match up each picture to the word they think it represents as the teacher reads the words aloud.

(Grouping: Small group) (Application: Hands on/promotes engagement)

 Students will listen to the definition of each word as the teacher reads it aloud and will talk with their group member to decide whether they want to leave it with the picture they have placed it with or to switch it to another picture.

(Grouping: Whole class/Small group) (Integrating Processes: Listening/Speaking)(Application: promotes engagement/meaningful)

4. Students will listen to the teacher explain the correct way to match the words and pictures by

by showing the matched cards and pictures, and have the students correct any that are not correctly matched up. The teacher will then call all students back to the carpet.

(Scaffolding: Comprehensible input)

explaining how the definition connects to the picture and will watch the way the teacher matches up the word cards and the pictures, and then if needed, will rearrange any of their vocabulary word cards and pictures to match them up correctly. The students then will return to the carpet

(Grouping/Whole class/Small group) (Application: meaningful/Hands-on)

Explore

Teacher Will:

IQ 1# In what ways does the Coqui Frog represent Taino culture?

- 1. The teacher will introduce the <u>read-aloud</u> book: "KIKI KOKI The Enchanted Legend of the Coquí Frog." The teacher will use the book to STRONGLY EMPHASIZE connections between the island Boriken (Puerto Rico), the Taíno people, and the Coquí Frog. The story will provide a foundation about how the history and importance of the Coquí frog has been shared through verbal stories passed down by the Taíno people.
- 2. The Teacher will ask students to put a thumbs up during the story when they hear one of the vocabulary words, and then will read the book to the class. While reading through the book the teacher will ask/carry out the following guided questions/ instructions:
- → When showing the page with a map of Island Boriken). Ask students what this piece of land surrounded by water is called.
- → When showing page 6 with thunder), the teacher will play thunder storm sounds using the Thunder storm sounds video: https://youtube.com/shorts/rCX3YOYL2IU?
 si=u3OlrtMZg WByL-J
- → When showing page 8), ask students, "What do you think happened to Kokĺ?" "How did he turn into a Coqui frog?"

Students Will:

2. As the teacher reads the book, the students will listen closely for vocabulary words in the story and put a thumbs up each time they hear one. As the teacher reads, the students will also respond to the questions asked by the teacher by viewing the pictures in the book and thinking about what they hear and about what they know.

(Grouping: Whole class) (Preparation: Strategies Used/Linking to background/ Linking to past learning) (Application: Promotes Engagement/ Linked to objectives) (Integrating Processes: Listening/Speaking)

- → When showing page 20 with a pirate ship, ask students,"What did Koki hear coming?" "Who is that?" "What do you think is going to happen?"
- → When showing page 34) Ask students, "How did Koki feel about helping his tribe at the beginning of the story?" "How does he feel now?"
- 3. After reading, ask students, "What do you think the Coquí frog means to the Taino people of Puerto Rico?" "How do you think they would feel if the Coqui was not there any more?" Then ask the class Inquiry Question #1 In what ways does the Coquí frog represent Taino culture? and engage the students in a discussion of how to answer the question based on what they have learned about the Coqui frog and the Taino people from the book.

3. Students will reflect on what they have learned about the Coquí frog and the Taino people of Puerto Rico and respond to the questions asked. (Grouping: Whole class) (Preparation: Linking to past learning) (Application:Promotes engagement/Linked to objectives)

Explain - Formative Assessment

Teacher Will:

Share with students that due to this peculiar parallelism between the Coquí frog and the Puerto Ricans, it's why it became their national symbol. Small island, small frog but huge voice, this refers to the fact that Puerto Ricans will always be heard by the rest of the world.

1. The teacher will then tell students they will play the POPCORN game where the teacher will ask the class what they have learned so far, and then throw a nerf ball (or any VERY soft/nerf object) to a student who has raised their hand to share our their learning. Then that student will toss the ball to a classmate to share what they have learned, and this will continue until all have had a chance to share out what they have learned about the Coqui frog and Puerto Rico with the class. While playing the POPCORN game, the teacher will make

Students Will:

1. Students play POPCORN carefully, and share what they have learned so far in the lesson while the teacher takes notes on what they share out as a formative assessment. If needed, students can first share their learning with a partner and get feedback to support them in then sharing out their learning with the class.

(Grouping: Whole class/Independent)
(Assessment: Oral/Individual) (Integrating Processes: Listening/Speaking)

note of what each student shares as a formative assessment of student learning.

(NOTE: The teacher will provide support to ELLs/SPED students if needed by partnering them up to provide an opportunity to share their learning first with their partner and get feedback before having to share out their learning with the class.

Elaborate

Teacher Will:

IQ #2: How has the Coqui population in Puerto Rico been impacted by weather and human development?

The teacher will strategically group students to provide language and/or learning support as needed for ELLs/SPED and Gifted students.

- 1. The teacher will share that the island of Boriken from the story is now called Puerto Rico.
- 2. The teacher will repeat the vocabulary activity from ENGAGE Part B for 3 new words: hurricane, endangered and habitat by reading the words aloud and having the students match the vocabulary word cards to the vocabulary picture (in Lesson Materials Document) and then read the definitions aloud and have students study how they have matched up the words and cards and make any changes needed. The teacher will make sure to explain the differences between whirlpools and hurricanes and show sample cards and pictures to show the students the correct match up of each.
- 3. The teacher will pass out copies of the <u>Physical</u> Map of Puerto Rico (in Lesson Materials document) to each group of students and display one on the board/tv. Teacher will ask students to think about what each color on the map might represent and ask, "What do you think the green/blue/yellow parts of the map

Students Will:

2. Students in their groups will engage in a vocabulary activity by repeating vocabulary words back to the teacher, and work together in their groups to match the pictures to the words. Then students will hear the definitions of the words read aloud by the teacher and use what they have heard to decide if they have matched the cards correctly to their pictures. Students will then make any changes as needed to make sure all of their cards and pictures are matched up correctly when the teacher shows how they should be matched correctly.

(Grouping: Whole class/Small group) (Integrating Processes: Listening/Speaking) (Application: promotes engagement/meaningful)

3. Students will observe the map and share what they think certain parts could look like.

(Grouping: Whole class/independent) (Integrated Processes: Listening/Speaking)

- look like?" Teacher will let students know the key parts of the map are (forest/land/water).
- 4. The teacher will ask students where they believe the Coquí tree frog would live, and then show students the Video: BioBytes: Coqui Frog Conservation https://www.youtube.com/watch?v=10yDGNmWVb8
- 5. The teacher will pass out 16 (4 per student)

 <u>Coqui frog cutouts</u> (in Lesson Materials

 Document) to each group, and tell the
 students to place the Coqui's on their Map of
 Puerto Rico in the areas that have forests or
 high mountains. The teacher will provide time
 for the groups to place their frog cutouts on
 the map where they think the Coqui could live.
- 6. Introduce Inquiry Question #2 to the class: How has the Coqui population in Puerto Rico been impacted by weather and human development? and talk to the class about how Puerto Rico is home to 17 species of Coqui frogs and of these today, 3 species have become extinct, and 13 species are critically endangered or threatened. The things that are causing these problems are climate warming, extended periods of drought as well as the build up of human population in the area. (See Teacher Resource: Declining Populations in Lesson Materials Document for information). The teacher will then engage the class in a discussion asking students how the decline of the Coquí frog could have an impact on the environment and the people of Puerto Rico.

4. Students will share where they think the Coqui frog lives and then watch the video to see where they live.

(Grouping: Whole class/Independent) (Integrated Processes: Listening/ Reading/ Speaking)

5. Students will use their Coqui cutouts and place them on the map where forests and mountains are labeled.

(Grouping: Small groups) (Application: Hands-on/ Meaningful/Promotes engagement/linked to objectives)

6. Students will listen to Inquiry question #2 and the teacher's discussion of how Coqui frogs are endangered today. Students will reflect on how this could impact the people of Puerto Rico and engage in a class discussion about how a decline of the *Coquí* frog could impact the environment and people of Puerto Rico.

(Grouping; Whole class/Independent) (Preparation: Linking to past learning) (Integrating Processes: Listening/Speaking)

Evaluate

Teacher Will:

 Pass out copies to each student of the "Most Wanted Alive" poster and the CoquÍ frog Summative Assessment Worksheet (in Lesson Materials document) and explain how they are to complete the poster by drawing a picture of a Coqui frog

Students Will:

 Students will draw a picture of a Coqui on the poster. Students will complete the worksheet based on what they have learned and will include the vocabulary words when appropriate. and are to complete the worksheet by using what they have learned to 1) describe where the Coqui frog lives, 2) to write down 3 reasons the Cogui frog is endangered, and 3) to write down what they think can be done to help the Coqui. The teacher will also let the students know that they are to use the vocabulary words learned within their written responses to the prompts. The teacher will also go over the **Summative Assessment Rubric** with the class to explain what are the criteria for grading. Then the teacher will provide time for the students to complete their worksheets and will provide any language and/or writing support needed for students to complete their assessment. The teacher will collect the students' completed worksheets and use the Summative Assessment Rubric to assess their learning, with a score of 7 or higher indicating mastery.

(Grouping: Individual) (Application: Linked to Objectives) (Integrating Processes: Writing) (Assessment: Written/Independent)

Extensions:

- Students can research an animal from their culture that holds a significance from their land.
 - Students can research where this animal can be found and use mapping activities to pinpoint those areas.
- Students can research more about the fungal disease that is spreading across the Coqui frog species.