

GeoCivics Lesson: *Take Action!*Protecting Native Wildlife in Your State

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| Teacher(s): | Lesson Title: | Grade Level: |
|-------------|---|--------------|
| P. Adiyia | Take Action! Protecting Native Wildlife in your state | 4th Grade |
| Notes: N/A | | |

Pre-existing Knowledge:

- Students should have some familiarity with local wildlife including animals and plants they see in their daily lives or during outdoor activities. They can recognize animals such as coyotes, javelinas, roadrunners and saguaro cacti.
- Students are aware that human activities can affect the environment in both positive and negative ways.
- Students have a basic understanding of Arizona's geography and climate including deserts, mountains, and rivers. They know that Arizona has hot summers and mild winters.

Overview of Content:

Protecting native wildlife in Arizona is crucial for maintaining the state's unique biodiversity and ecological balance. Arizona is home to a wide range of species such as the Gila monster, Mexican gray wolf, and desert tortoise, each playing vital roles in the ecosystems. These species contribute to pest control, pollination, and the overall health of natural habitats. However, they face numerous threats, including habitat loss from urban development and agriculture, climate change-induced habitat shifts, pollution, and competition from invasive species. Protecting these animals involves preserving their natural habitats, mitigating climate impacts, reducing pollution, and managing invasive species.

Purpose: What will students learn?

In this lesson, students will learn how to raise awareness about the unique wildlife of Arizona and the ecosystem they inhabit, and be educated about the threats facing native wildlife and measures that can be taken to protect them. Students will also build their scientific inquiry skills through observation, data collection, and analysis related to wildlife and their habitats. Further, this civic action project aims to

educate and mobilize students to protect native wildlife in Arizona. Students will learn about local wildlife species, understand the threats they face, and develop actionable plans to promote conservation efforts within their communities. The project will empower students to take proactive steps in protecting native wildlife in Arizona. By combining education, community action, and advocacy, this project will foster a sense of responsibility and stewardship towards the environment and help build a more wildlife-friendly community.

National & State Social Studies Standard(s):

National Social Studies Standards

• Theme 3: PEOPLE, PLACES, AND ENVIRONMENTS - The study of people, places, and environments enables us to understand the relationship between human populations and the physical world.

Arizona:

• **4.L4U1.11**: Analyze and interpret environmental data to demonstrate that species either adapt and survive or go extinct over time.

National & State Geography Standard(s):

National Geography standard

- **Standard 3:** How to analyze the spatial organization of people, places, and environments on Earth's surface
- **Standard 14:** How human actions modify the physical environment.

Arizona Geography Standard

- Human-environmental interactions are essential aspects of human life in all societies.
 - 4.G2.1 Compare the diverse ways people or groups of people have impacted, modified, or adapted to the environment of the Americas.
 - Key concepts include but are not limited to disease, farming, family structure, housing, cultural assimilation, cultural amalgamation, climate, transportation, domestication of animals, clothing, recreation, and utilization of renewable and non-renewable natural resources

ELA Standards:

- **4.SL.1:** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles. Pose and respond
 to specific questions to clarify or follow up on information, and make comments that
 contribute to the discussion and link to the remarks of others. d. Review the key ideas
 expressed and explain their own ideas and understanding based on the discussion.

ISTE Student Standard:

1.3.c Curate Information: Students curate information from digital resources using a variety of tools
and methods to create collections of artifacts that demonstrate meaningful connections or
conclusions.

Language Functions:

• 4.L.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Choose words and phrases to convey ideas precisely.

Culturally Responsive Lesson Strategies: (See Rubric below. What strategies will you include in your instructions to make lessons/assignments more culturally responsive?)

- **CONNECTION:** Lesson/activity incorporates real-life connections and representations from various cultures and life experiences.
- VOICE: Lesson/assignment allows places for students to work together cooperatively or share their learning experiences, strengths, backgrounds, interests, and needs with the instructor and each other.

Objective(s):

By the end of the lesson, students will be able to:

- Describe some of Arizona's native wildlife and their habitats.
- Describe the threats to native wildlife and the importance of conservation.
- Accurately identify wildlife habitats on an Arizona map (or your state map)
- Engage in activities to promote the protection of local wildlife.
- Create and share action plans to help protect native species.

SIOP

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

Evidence of Mastery (Measurable):

Formative

After students have presented their awareness campaign, their chosen species and conservation message, the teacher gathers students' input on the project process and teaching methods. Administer surveys where students reflect on the project's effectiveness, their own learning, and the support they received.

Questions:

- What is habitat loss and how does it affect your native wildlife in Arizona (or your own state)
- What are the key roles that native wildlife play in Arizona's ecosystem? (or your own state)
- What part of the project did you find most engaging or challenging?

Summative

The assessment for this lesson will be a project where students create a comprehensive "Wild life Protection Plan" for a specific native species in Arizona.

- Students will choose a native wildlife species in Arizona and research its habitat, diet, role in ecosystem, threats to its survival, and current conservation efforts.
- Students will develop a protection plan that includes strategies for habitat preservation, reducing threats, and promoting public awareness. Students will have to develop visual aids to support their protection plan.

| Exceeds Expectations | Students present their Wildlife Protection Plan to the class, explaining their research and proposed strategies. | 21-25 |
|----------------------------|---|-------|
| Meets Expectations | Develop protection plans including reducing threats, and promoting public awareness using posters, diagrams, and models to support their protection plan. | 16-20 |
| Approaches Expectations | Students researched about native species and provided detailed explanations to their role in the ecosystem, threats to its survival, and current conservation strategies. | 11-15 |
| Fails to Meet Expectations | No detailed explanation of habitat, diet, role and ecosystem of native species. | 1-10 |

Key vocabulary:

- Habitat: Is the natural environment in which a particular species of plant, animal, or other organism lives and grows.
- Conservation: The careful management and protection of natural resources, ecosystems, and wildlife to prevent their degradation, depletion, or extinction.

Materials:

- Compile a box with pictures (download separately) or models of native Arizona (or YOUR state - see Sources) animals. Have enough pictures/models so each student (or group) can select one different animal from the box.
- <u>Threats to Arizona Wildlife for kids</u> print one for each student group

- Native species: A plant, animal, or other organism that naturally occurs and has evolved in a particular region or ecosystem over a long period of time.
- Invasive species: Non-native organisms that are introduced to a new environment, where they have the potential to cause harm to the local ecosystem, economy, or human health.

Levels of Conservation Status:

- Critically Endangered: Species that face an extremely high risk of extinction in the immediate future. They have a very small population or are experiencing a drastic decline.
- Vulnerable: Species that face a high risk of extinction in the medium-term future. They are experiencing a significant decline in population, or their habitat is being lost or degraded.
- Extinct: Species for which there is no reasonable doubt that the last individual has died. They no longer exist anywhere in the world.
- Near threatened: Species that are close to qualifying for a threatened category in the near future. They may not be in immediate danger, but their populations are declining or facing potential threats.
- Least concern: Species that are widespread and abundant. They are not currently facing a significant risk of extinction in the wild.

- Arizona Map download separately (teachers from other states please find similar map)
- Video on common threats to wildlife in Arizona. -- *Link in Sources*
- Pictures of native wildlife in Arizona -download separately
- Video of native animals in Arizona -- Link in Sources
- Computer and internet access
- Materials for awareness campaign: Poster paper, markers, access to computers with
- Peer & self evaluation form download separately

Sources:

- Wildlife search by state: https://www.fws.gov/species/search
- IUCN Red List (database of worldwide plant & animal conservation status)
 https://www.iucnredlist.org/
 The IUCN Red List is a critical indicator of the health of the world's biodiversity. Far more than a list of species and their status, it is a powerful tool to inform and catalyze action for biodiversity conservation and policy change, critical to protecting the natural resources we need to survive. It provides information about range, population size, habitat and ecology, use and/or trade, threats, and conservation actions that will help inform necessary conservation decisions.
- Arizona Fish & Game Threats & Conservation actions:
 https://awcs.azgfd.com/chapter-8-threats-and-conservation-actions
- Video of native animals in Arizona

Engage

Teacher Will:

1. Ask students to name their 'favorite' wild animal in Arizona (or YOUR state). Ask: have you ever seen any of these in person? At a Zoo? Hiking? Backyard? At a sanctuary? Write responses on board.

(NOTE): Remind students to NEVER approach ANY wild animal.

- 2. Then, pass around a "mystery box" containing pictures of various native animals in Arizona (e.g. Coyotes, Gila Monster, Cactus wren, javelina, jackrabbit, rattlesnake, roadrunner, prairie dog, bighorn sheep, Band-tailed pigeon, etc). Students each pick out an animal from the box. Ask students to share what they know about the animal they picked from the mystery box.
- After student discussion, the teacher shows a video highlighting Arizona's (or YOUR state) native wildlife and some of the challenges they face (e.g habitat loss, pollution and a changing climate)
- 4. Introduce and discuss relevant vocabulary words and directly connect to what was seen in video

Student Will:

- 1. Participate in class discussion about what wild animals they know about and may have seen.
- 2. Take turns picking out a picture or model of an animal from the mystery box and discuss what they know about the animal.
- Ask students to share their thoughts on the video and their favorite animals. Discuss why it might be important to protect these animals and their habitats.
- 4. Participate in class discussion regarding vocabulary words.

(Grouping: Whole class) (Preparation: Linking to past learning) (Integrating Processes: Listening/Speaking) (Application: Hands-on/Meaningful/Promotes engagement)

Explore

Teacher Will:

IQ 1# What are the most significant threats to Arizona's wildlife?

- Students are in small groups. Ask students if they know of things that may be harmful to wildlife first in their groups, then whole group brainstorms on board.
- Handout copies of <u>Threats to Arizona Wildlife</u> <u>for kids</u> to each student, and have them research the kinds of threats facing Arizona wildlife (or YOUR state).

Student Will:

- 1. Students participate in conversation in their groups first, then participate in a whole group discussion.
- 2. Using the document <u>Threats to Arizona</u>
 <u>Wildlife for kids</u>, students research the kinds of threats facing Arizona wildlife (or YOUR state).
- 3. Groups share what they have learned from the reading with the entire class.

3. Have each group share what they have learned from the reading with the entire class.

(Grouping: Small groups/Whole class) (Integrating Processes: Listening/Speaking) (Application: Meaningful/Promotes engagement)

Explain

Teacher Will:

- 1. After sharing what they have learned, the teacher follows up with a short presentation on common threats to wildlife in Arizona (or YOUR state). (e.g. urbanization, climate change) and introduces basic conservation strategies.) During the presentation, teacher connects vocabulary to content.
- 2. Ask students to discuss in small groups the following questions:
 - What are some of the biggest threats to wildlife? Why is it important to protect native species? How can we help protect them?

(Assessment: Group/Oral)

Student Will:

- 1. Students follow along with the presentation and take notes of vocabulary.
- 2. Students then discuss what they learned. Ask students to discuss in small groups the following questions:
 - What are some of the biggest threats to wildlife? Why is it important to protect native species? How can we help protect them?

• What are some of the biggest threats (Application: Meaningful/Promotes engagement)

Elaborate

Teacher Will:

IQ #2: How can we help to protect native wildlife in our state?

- 1. Teacher models how to use the <u>IUCN Red</u> List.
- 2. Using the <u>IUCN Red List</u>, each team of students will research one different animal in Arizona (or YOUR state) recording the following in their journals: *Name of animal*, where it can be found its habitat, what is the conservation status? What issues is it facing?
- 3. Students will choose a native wildlife species in Arizona (or your state) and research its habitat, diet, role in the ecosystem, threats to its survival, and current conservation efforts. *Using the map*, students will highlight the habitat of their chosen animals. *Students will*

Student Will:

- 1. Students watch how to use the Red List.
- 2. Using the <u>IUCN Red List</u>, students research one different animal in Arizona (or YOUR state) recording the following in their journals: Name of animal, where it can be found its habitat, what is the conservation status? What issues is it facing?
- 3. Students will choose a native wildlife species in Arizona (or your state) and research its habitat, diet, role in the ecosystem, threats to its survival, and current conservation efforts. *Using the map*, students will highlight the habitat of their chosen animals. *Students will also discuss how the habitat location*

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- also discuss how the habitat location may play a factor in the threats to their animal.
- 4. After collecting data, student groups create awareness campaigns by making posters, flyers, or digital presentations about protecting a specific native species.
- Students will develop a protection plan that includes strategies for habitat preservation, reducing threats, and promoting public awareness. Students will have to develop visual aids to support their protection plan.

(Integrating Processes: Listening/Speaking/ Reading/Writing) (Preparation: Strategies used) (Scaffolding: Guided Practice)

- may play a factor in the threats to their animal.
- 4. After collecting data, student groups create awareness campaigns by making posters, flyers, or digital presentations about protecting a specific native species.
- Students develop a protection plan that includes strategies for habitat preservation, reducing threats, and promoting public awareness. Students will have to develop visual aids to support their protection plan.

(Application: Meaningful/Promotes engagement)

Evaluate

Teacher Will:

- 1. Each group first presents their awareness campaign to the class. They explain their chosen species or conservation message and discuss what actions they recommend.
- Then, students compile a list of how and where they can promote their awareness campaigns (school, church, local media, community centers, libraries, etc.)
- 3. **TAKE ACTION!** With the assistance of the teacher, students promote their campaigns to various organizations and media platforms.
- 4. **Self and Peer Evaluation** Students complete a self evaluation on their contribution to the project and a peer evaluation to provide feedback on other groups' campaigns.

(Assessment: Individual/Written)

Student Will:

- 5. Each group first presents their awareness campaign to the class. They explain their chosen species or conservation message and discuss what actions they recommend.
- 6. With the assistance of the teacher, students compile a list of how and where they can promote their awareness campaigns (school, church, local media, community centers, libraries, etc.)
- 7. **TAKE ACTION!** With the assistance of the teacher, students promote their campaigns to various organizations and media platforms.
- 8. **Self and Peer Evaluation** Students complete a self evaluation on their contribution to the project and a peer evaluation to provide feedback on other groups' campaigns.

(Application: Promotes engagement/Linked to Objectives) (Integrating Processes: Listening/Speaking/Reading)

Extensions:

• **Field Trip:** Class will plan and visit a local wildlife refuge or conservation center to see conservation efforts in action.

| protect wildlife |
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• Guest Speaker: Class will invite a wildlife expert or conservationist to talk about local efforts to