



The Bio/Diversity Project


Lesson 6 Invasive Species

Teacher: Lauren

Grade Level: 4th-6th

Lesson Length: 120 minutes

This lesson has been adapted from: [Invasive Species Game – Lesson Plan](#)

AZ Science Standard:	<p>6.L2U1.13 Develop and use models to demonstrate the interdependence of organisms and their environment including biotic and abiotic factors</p> <p>8.L4U1.11 Develop and use a model to explain how natural selection may lead to increases and decreases of specific traits in populations over time.</p>
Learning Objectives:	<ul style="list-style-type: none">• Students will be able to describe how resources are limiting factors in an ecosystem• Students will be able to share about the impacts of invasive species on ecosystem health
Scientist of the Week:	<ul style="list-style-type: none">• Sidney Woodruff  <ul style="list-style-type: none">• Native Reptile and Amphibian Conservationist• University of California, Davis• Sidney Woodruff (she/they) is a Black, biracial, queer, nonbinary Ecology PhD student at the University of California in Davis, researching native reptile and amphibian conservation. After receiving a BS in Wildlife Sciences and a BS in Forestry, Sidney spent time with the National Park Service at Yosemite National Park. In graduate school, they also dedicate themselves to mentoring and community-building by helping run M.U.S.E. (Mentorship for Underrepresented STEM Enthusiasts).



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Vocabulary	Materials
<ul style="list-style-type: none">• Invasive Species• Non-Native Species• Native Species• Ecosystem	<ul style="list-style-type: none">• Powerpoint• Coding Worksheet• Online Access to Invasive Species CoLab• Markers, Colored Pencils, and Pencils
Guiding Questions <ul style="list-style-type: none">• What are some local invasive species that are threatening our local ecosystem?• What are invasive species, why are they a problem, and what can be done about them?• What role do humans play in management of invasive species?	

Engagement Activity (15 Minutes):

- Invite students to define the terms “Invasive species, non-native species, and invasive species.” It is recommended that student start as think-pair-share activity in small groups and then come together as a class
 - o Native: species that naturally lives in a region (Explain how native species are often referred to as indigenous species as this can be helpful in remembering the terms definition)
 - o Non-native: species that does not naturally live in a region
 - o Invasive: species that does not naturally live in a region and disrupts its ecosystem
- Play the [following video](#)

Exploratory Activity (50 Minutes):

(40 mins for creating poster, 10 for sharing)

- [Explore the different types of species found in Arizona](#)
- Give a slide with types of invasive species in Arizona, tell students that we will be making ‘Unwanted’ Posters for these species. These posters should include: name of species, drawing of species, where the species is from, how it spread to arizona, what is being done to prevent the spread, what native species it is affecting and how(competing for resources, new predator etc), and any other information they find.
- Give examples of the posters of other species for students to quickly look at
- Allow students to share their posters with the class

Explain Activity (5 Minutes):

- Lead a discussion as a class regarding the previous activity
- Ask students to volunteer responses to the following questions:
 - o [Why is managing the spread of invasive species important?](#)
 - o [What could be the consequences of organisms entering an ecosystem that have a competitive advantage over the native species?](#)
 - o [How can ecosystems be changed by invasive species?](#)



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Extension Activity (40 Minutes):

- Ask students what they remember about our previous coding activity
 - Guiding Questions:
 1. How can coding help us pick apart and visualize large datasets? ie. pandas
 2. How can coding improve efficiency?
 3. What are some problems that can assist in coding?
- Introduce to the class that we are going to do another [coding activity](#)
- Pass out [coding worksheet](#) to class
- Split the students into pairs; each student should still have a laptop to follow along with the activity
- Have the students sign into their chrome books and open google drive and type in the search bar Invasive_Species
- Link or show screenshots of activity in slides and have the students follow along with you
- As you move through the activity, pause at each step that correlates with the worksheet
- While going through the worksheet, make sure to discuss results that the students collected
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Evaluation Activity (5 Minutes):

- On butcher paper or whiteboard, draw a web with the following prompt in the middle:
 - “What is one thing that we can do to help prevent invasive species in Tucson?”
- Invite a student volunteer as a scribe for discussion they will write their classmates thoughts on the web
- Have some examples prepared so students can have something to bounce off from ie:
 - go on buffelgrass pulls ie. service projects
 - workshops to help the community identify native and invasive species to spread awareness
 - planting native species ie. cacti
 - clubs
 - infographics / posters

Reflection Time (5 Minutes)

- Why are invasive species a problem, and what can be done about them?
- What was fun about our activity?
- What was challenging?