

The Bio/Diversity Project
 Lesson Title: Protecting Pollinators

Teacher: Emma & Zabrina
 Grade Level: 6th
 Time Teaching: 55 minutes

This lesson has been adapted from:

AZ Science Standard:	<i>6.L2U1.11</i> • <i>Use evidence to construct an argument regarding the impact of human activities on the environment and how they positively and negatively affect the competition for energy and resources in ecosystems .</i>
Learning Objectives:	• Students will be able to explain one important reason why we should protect pollinators. • Students will be able to describe how their bird feeder helps protect pollinators.
Scientist of the Week:	• <i>Earyn McGee</i> • <i>Conservation Biologist</i> • <i>PhD from University of Arizona</i> • <i>Tucson, Arizona</i> • Dr. McGee is a science communicator who advocates for the rights of all people to be able to love and care for the natural world. • With her efforts, people can enjoy and care for our world, nature, and the environment with fewer restrictions.
Vocabulary	Materials



● Conservation ● Population ● Biotic ● Restoration ● Abundance	● Powerpoint ● 80 bird feeder collection sheets			
Seasonality: Any seasonality				
<i>Monsoons</i> July-Sept.	<i>Autumn</i> Oct.-Nov.	<i>Winter</i> Dec.- Feb.	<i>Spring</i> Mar.-Apr.	<i>Dry Summer</i> May-June
Guiding Questions: ● What is the importance of protecting pollinators? ● How can conservation and restoration be used to help protect pollinators?				

Engagement/Introductory Activity:

- Students will be shown a series of 5 common birds in the Tucson area. This will help them be able to identify birds that might visit their bird feeders.
- As birds are displayed, as a class, students will be asked if they notice anything about the birds. Answers can be anything like the bird's colors, beak size, or eyes. We will go over their specific traits before moving on to the next slides.
- **Anna's hummingbird:** "flame" throated, iridescent green and grey body, males have the characteristically rose-colored throat whereas females are duller
- **Rufous hummingbird:** They are cinnamon-rufous colored on the upper parts, tail, and lower breast and belly. In good light, the male's throat iridescent a metallic orange to scarlet. The female is more iridescent bronze-green above and dull white below.
- **Northern Cardinal:** The Northern Cardinal is likely one of our most recognizable birds, particularly the bright red males. Young Northern Cardinals do not have orange beaks. Sunflower seeds attract them.
- **Cactus Wren:** This is Arizona's state bird! The bird's spotted and speckled black, white, and cinnamon-colored feathers, large white eyebrows, and red iris are hard to miss.
- **Mourning Dove:** Mourning Dove has a brown body, blue-gray wings, and a long pointed tail. Doves are strong, fast fliers and noisy too, as they clap their wings together when they start into flight.

Exploratory Activity:

- Students will now have 15-20 minutes to work on the decorating and wrapping up phase of their action project. The expectation for this activity is that students will have:
 - Complete any finishing touches for the decoration (with paint) of their feeders. The idea with the decoration is that students will incorporate what they have learned about pollinators and colors to best attract birds.

Explain:

- Each student should receive a copy of a [bird feeder data collection sheet](#).
- Show students [this video of live wildlife camera footage](#) (similar to what they would see on their school



wildlife cameras) and ask them to note down any observations they see while watching the video.

- The idea is to get the students comfortable with collecting observational data of their very own bird feeders.
- Students will take home their data collection sheets so that they can make similar observations at home!

Extension Activity/Questions:

- For this activity, us interns and our teacher will lead the students outside around campus where each class will pick a location (based on accessibility, wildlife camera placement, and level of attraction for birds) for their class bird feeder to be hung up.
 - This one feeder per classroom will be built by the interns to represent the class since we do not want 70+ bird feeders hanging around campus.
 - The remainder of the bird feeders that the students made individually will be sent home with each student so that they can protect pollinators at home as well.

Evaluation Activity:

- Students will have 7 minutes at the end of class to write a minimum of 5 sentences of a reflection on their action project.
 - Some guiding questions for these reflections include:
 - What is citizen science? How does your bird feeder project reflect this idea?
 - What things that you learned about birds this semester did you keep in mind when making your bird feeders (colors, style, decor, feed)?
 - What is your favorite thing you learned this semester overall?
- These reflections will be turned in to us intern teachers but not shared out loud with the class.