

The Bio/Diversity Project

Lesson Title: Final Lesson - Student Posters

Teacher: Grace and Lily
 Grade Level: 9th
 Lesson Length: 50 minutes

This lesson has been adapted from [Tips for Students: Creating and Presenting Research Posters](#)

AZ Science Standard:	U2: The knowledge produced by science is used in engineering and technologies to solve problems and/or create products.
Learning Objective:	- Students will be able to create a poster that displays the findings of our hummingbird data - Students will be able to scientifically communicate their findings to peers
Scientist of the Week:	 - Deborah Goldberg - Professor in the Department of Ecology and Evolutionary Biology at the University of Arizona - Conservation Ecologist - She researches how plants grow and interact together in the Sonoran desert - Goldberg works in the Tumamoc Hill research lab called the “Desert Laboratory” - Who has hiked Tumamoc Hill before?

Vocabulary	Materials
- Introduction ❖ Include our research question - “What time of day do birds most frequently visit Catalina High School?” ❖ Include your hypothesis - Methods ❖ Include 1-2 sentences: How did we collect our data? ❖ Include 1-2 sentences: How did we analyze our data?	- Poster boards - Markers - Colored pencils - Print-outs of student graphs - Glue  Lesson 8



❖ Include your graph, created in R ● Conclusion ❖ Include 1-2 sentences: What is the answer to our research question (above)? ❖ Include 1-2 sentences: Were your hypothesis correct?				
Seasonality: Any				
<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: ● How did we collect our data? ● How did we analyze our data? ● What makes a good scientific poster? ● How do we talk about science to our friends and family?				

Engagement/Introductory Activity:

- Discussion: Begin by engaging students in a brief discussion reviewing what we've done so far for our action project.
- Outline expectations for student posters and explain relevant vocabulary. The introduction tells the people reading your poster what it's about and what your scientific question is, the methods tell people how you answer your question, and the conclusion tells them the answer you found.
 - Introduction
 - Include our research question - "What time of day do birds most frequently visit Catalina High School?"
 - Include your hypothesis
 - Methods
 - Include 1-2 sentences: How did we collect our data?
 - Include 1-2 sentences: How did we analyze our data?
 - Include your graph, created in R
 - Conclusion
 - Include 1-2 sentences: What is the answer to our research question (above)?
 - Include 1-2 sentences: Was your hypothesis correct?

Exploratory Activity:

- Poster Draft
- Divide students into the groups they worked with to create their graphs.
- Instruct them to plan and design a poster on a scratch piece of paper.
- Include small sketches and explanations.
- Encourage them to think about what supplies/colors they will need and to practice what they will write on their final poster.
- Duration: 10 minutes

Explain:

- Poster creation
- Using their rough draft, students will create posters with an introduction, methods, and a conclusion



section.

- Students will glue their printed R graphs onto the board.
- They will follow the guidelines listed above to accomplish this task.
- Emphasize the importance of clear presentation and accurate representation of data.
- Duration: 20-minutes

Extension Activity/Questions:

- Gallery walk
- Once posters are completed, the class will showcase their work via a gallery walk.
- Each group will put their poster on a desk and go around the room reading everyone's work.
- Encourage students to ask questions and engage in discussions about the various hypotheses and data presented!
- Duration: 10-minutes

Evaluation Activity:

- Class vote: After the gallery walk, facilitate a class vote on the favorite poster by writing the creator's name on a slip of paper.
- Students cannot vote for themselves.
- Encourage students to vote based on:
 - Clarity
 - Creativity
 - How they chose to explain the project
- Offer the winning team a prize, like candy!
 - Since this lesson is our last class, we will have an extra wrap-up activity to reflect on this semester's work:
 - Students will think about their favorite lesson, activity, or fact they learned from our time together and share their takeaways and perspectives on pollinators now with neighbors.