

By Design 8 Ch. 4 Ecology Project Guidelines

Standards addressed:

- Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
- Construct an explanation that predicts patterns of interactions (e.g., competitive, predatory, mutually beneficial) among organisms across multiple ecosystems.
- Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.
- Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
- Evaluate competing design solutions (e.g., scientific, economic, social considerations) for maintaining biodiversity and ecosystem services (e.g., water purification, nutrient recycling, prevent soil erosion, habitat enhancement).

Projects will include:

- A **representation** of the organism (drawing, 3D-model, etc.)
- A **report** including:
 - a. Information about the organism's **habitat** and the main **resources** it requires.
 - b. Information about the organism's **range**, including summer & winter homes if it migrates
 - c. Information about how the organism **interacts** with other organisms (trophic level, etc.)
 - d. A description of one or more **abiotic** or **biotic factors** that has/have caused the species to be endangered.
 - e. Evidence about **how** these factors affect populations of your species.
 - f. A reasonable prediction of how extinction of your species would affect other populations.
 - g. Proposal of a possible **solution** to counteract the abiotic or biotic factors that have caused the species to be endangered. What would the pros and cons of this solution be?
- A **bibliography** that includes all resources used to research your project.

Most class time will be dedicated to working on reports between now and the project's due date, Wednesday, Oct. 1. **You are expected to complete the representation component of the product at home.**

To make the report manageable, we will focus on small sections. Components and the due dates for drafts are listed below. You are encouraged to turn in components as you complete them rather than waiting until the due date. This will give you the most possible time to revise and put together your final draft.

Project Component	Draft Due Date
Report components a, b, & c	Monday, Sept. 22
Report components d & e	Thursday, Sept. 25
Report components f & g	Tuesday, Sept. 30

Sample Report Outline:

Title

- I. Basic Information
 - a. Habitat
 - b. Range
 - i. Summer home
 - ii. Winter home
 - c. Required resources
- II. Interactions
 - a. Interspecies
 - i. Trophic level
 - ii. harmful interactions
 - iii. helpful interactions
- III. Endangerment
 - a. Abiotic factors contributing to endangerment
 - b. Biotic factors contributing to endangerment
- IV. Potential consequences of extinction
 - a. Effect on environment
 - b. Effect on populations
- V. Solution
 - a. Description of solution
 - b. Pros of solution
 - c. Cons of solution
- VI. Conclusion
 - a. In conclusion...
 - i. Reasons why this organism is worth saving
 - ii. Things I can do to help

Tips:

- Keep track of your sources as you go along. Use easybib.com to properly cite your sources, and copy and paste the citations into a word document.
- Save frequently! Don't wait until the end of a class period to save. You risk losing a lot of hard work.
- Save on a flash drive AND on your H-drive. That way, you'll always have a back-up.
- Make your own outline to organize your thoughts. Yours doesn't need to be just like the sample, but use it to help you get started.
- Ask for help! If you need help of any kind, or even just extra time at school to work, ask!
- Stay on Tuesdays! Mrs. Martin is at RMES until 5:00 on Tuesdays, and that would be great time to get extra time in the lab to work on your project (with help!)

Plagiarism:

Do NOT copy and/or paste another author's work. Use the information you read, but rephrase it using your own words. Then, in your writing, give the author credit for the information.

- For example, if I read an article by Alex Smith that says "Due to the ever-increasing numbers of Europeans who are demanding boiled eggs for breakfast, lunch, and even dinner, chickens are quickly moving toward extinction." I could use the information this way: According to Alex Smith, chickens are endangered because of merciless egg poaching.
- Then, I'd list the information for Alex Smith's article in my bibliography, using Easybib.com.

Turning in assignments:

- With the exception of the representation of the organism, all components of this project (including the final draft of the report) will be turned in using Mrs. Martin's DropBox.
- Each draft that you turn in will be returned to you with comments from Mrs. Martin. Use those comments to help you improve your writing, if needed. Drafts are not expected to be perfect, but the final draft will need to reflect the recommended revisions.