

**APES- The Effects of Coyote Removal in Texas
A Case Study in Conservation Biology**

After doing the coyote homework last night its time to look at this problem with an AP lens. Last night's homework was too simple => Don't worry this homework since it is longer will be worth more points (a lab grade!)! And you have until MONDAY to finish it up. Please DO NOT wait until Sunday night to start working on the lab. This should be TYPED, with each section labeled.

**PART I:
Answer in Paragraph Form (Introduction to the Problem)**

What specific questions do you intend to answer? What type of experimental treatment and control will you use? What variables do you intend to monitor?

PART I(b): (Introduction to the Environment)

DRAW a trophic level pyramid- listing/describing all of the organisms in the food web/ecosystem

PART II: (Experimental Design/Hypothesis)

Explain the experimental design used in this study. **Question:** *Make two predictions concerning the effects of coyote removal on the fauna of West Texas. Explain.*

PART III: (Experimentation/Data Analysis)

Looking at the graph (**PART III**), *evaluate the data and answer the questions.*

Question: What effect does coyote removal have on the mesopredator (*small mammals-badgers, bobcats, skunk, and fox*) populations? * Look at the dotted line versus the solid line.

PREDICTION: *Predict what might have happened to the **rodent populations** (rats, mice, moles, etc.) as a result of changes in the mesopredator populations.*

PART IV: (Data Analysis)

Looking at the graph (**PART IV**), *evaluate the data and answer the questions.*

Question: What do you think is the primary factor controlling rodent population growth?

PREDICTION: *Given the changes in population size, what other changes might you expect in the rodent community? (Think about what happens to a population when they get too big for the environment- for example- Too many deer?)*

PART V: (Data Analysis)

Looking at the graph (**PART V**), *evaluate the data and answer the questions*

Questions: *How does the competitive success of Ord's Kangaroo Rat change in the absence of Coyotes?
What term could be used to describe the role of the Coyote in this community?
Propose one possible cause for the decline in rodent diversity in the control area after treatment begins.*

Conclusion: (Summarize your findings)

Write a letter to **The Nature Conservancy** and summarize your findings. Explain how the impact of Coyote removal in this community will affect the ecosystem. Advise them on what they should do about the problem of Coyotes- Should they be removed or not? Why or why not? Give evidence to support your claims from the data.

Format:

Letter should be in business letter format- at least 3 paragraphs long- introduction, body with evidence and a conclusion. Don't forget addresses at the top of the letter and your signature at the end.