Fire and Grassland Ecosystems CER

Guiding Question: What effect does fire have on the presence or absence of grassland bird species?

Claim (Answers the guiding question):

If the _____ (independent variable) _____ (increases or decreases), then the _____ (dependent variable) will _____ (increase or decrease) because _____ (explain why this is for level 4 points).

Evidence:

- ebird.org
- Species List
- Unburned Sound Data
- Burned Sound Data

VEST Methods

1. **V**ariables- The methods directly test the independent and dependent variables. List your variables here
   a. Independent variable:
   b. Dependent variable:

2. **E**asy to follow- The methods were outlined in a step-by-step fashion that could be followed by anyone without additional explanations.
   a. Step 1:
   b. Step 2:

3. **S**everal data points- Data was collected multiple times so that an average could be calculated or other types of analysis could be done.
   a. We will collect multiple data points by _____

4. **T**able- Data was summarized in a data table that clearly describes what was discovered.

Trial Number	_____ (Independent Variable)	_____ (Dependent Variable)
1		
2		
3		
4		

Evidence: (Insert Image of Graph Here:)

Adapted from materials created by Kelsey Deal who participated in the Prairie Project educator cohort program. Learn more about the Prairie Project at: theprairieproject.org

Reasoning: (This will help prepare for the unit assessment on Wednesday) We found that our claim _____ was _____ (supported or not supported). An example of specific evidence that we found includes _____. This evidence _____ (does or does not) support the claim because we predicted _____. Outside examples of the ideas mentioned here include _____ (Include a summary of the big ideas from this article for level 4).

Rubric:

Rubric Categories	10	8	6	4	0
Claim	The claim mentions a clear relationship between the independent and dependent variables and explains why these two variables are related this way.	The claim mentions a clear relationship between the independent and dependent variables.	The claim is missing one of the variables or is missing the relationship between variables.	The claim generally answers the guiding question without specific information.	Does not make a claim, or does not answer the guiding question with their claim.
Evidence	Level 3 has been met plus a strong figure caption.	Graph has the following components: ● Data is complete and easy to understand. ● Type of graph matches the type of data. ● x and y-axis labeled and have a scale relevant to the data set. ● Main title is present and helps the reader understand the big idea of the graph.	Table has all necessary elements but may or may not test the ideas mentioned in the claim.	Author has made an attempt at finding the evidence.	Table is missing.
Reasoning	1) Author **restates the claim** and describes if it is supported or not supported.	Provides 3 of the following 4 reasoning components.	Provides 2 of the following 4 reasoning components.	Provides 1 of the following 4 reasoning components.	Does not provide reasoning, or only provides

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	2) Author **describes specific evidence** that was collected. 3) Author makes a clear connection between the claim and the evidence by describing **how the evidence supports the claim**. 4) Author describes evidence from outside sources.				inappropriate reasoning like “All cells are the same size and shape”.