

Lab Report 3: Cricket Respiration

Student Name: _____

Aspect	Attributes	Points
Title	<ul style="list-style-type: none"> • Include topic of experiment. • Include common and Latin name of organism. 	/1
Introduction	<ul style="list-style-type: none"> • Identify purpose of the study. • Provide context for research question. <ul style="list-style-type: none"> ○ Why is your question important? ○ How does your question fit into what we are studying? • State a hypothesis. • Use literature (textbook or article) as rationale for hypothesis. 	/3
Methods	<ul style="list-style-type: none"> • Provide general overview of experimental set-up & data collected. • Include rationale for experimental set-up. <ul style="list-style-type: none"> ○ How you are controlling for different external variables? ○ How will your measurements address your hypothesis? • Correct level of detail. • Describe method of data analysis. 	/2
Results	<ul style="list-style-type: none"> • Number figures and tables are numbered properly (Figure 1 is referenced first in the text, etc...) • Figure & table captions are informative, and in proper locations • Include a graph of respiration rate vs. temperature. <ul style="list-style-type: none"> ○ Axes labeled with units ○ 95% confidence intervals included ○ No lines or gray background • Include one table with means and standard deviations for Q10 values for each temperature range. • All calculated statistics, means, and confidence intervals are correct. • Describe important findings and trends in the text, even if they are not statistically significant. • Reference figures and statistics properly in text (in parentheses). • Do not include interpretation. 	/6
Discussion	<ul style="list-style-type: none"> • Interpret data correctly. • State whether data support or refute hypothesis. • Elaborate upon HOW data support or refute hypothesis. • Suggest explanations for your results. • Use logical reasoning rather than generalizations • Compare your results to other studies 2 other studies • Suggest how to improve your experiment and/or areas for future study. 	/4
Literature Cited	<ul style="list-style-type: none"> • Use format specified in instructions. • Do not include sources not cited within the text. • Format in-text citations properly (Name-Year system). 	/1
Grammar	<ul style="list-style-type: none"> • Correct punctuation, spelling, etc... • Limit passive voice use. • Be concise. • No casual phrasing or terminology, including contractions. 	/3
Total		/20

Comments:

Things to consider in your write up.

1. How does temperature affect the rate of respiration in crickets?
2. At what temperature was the rate of respiration highest?
3. By comparing the 95% confidence intervals, determine whether the respiration rates at different temperatures are significantly different from one another. If not, indicate which temperatures are similar. Explain why this might be.
4. Compare your Q10 values. Do they change as the temperature changes? At what temperature range is the Q10 value the highest? At what temperature range is the Q10 value the lowest?
4. What errors might have affected the results of this experiment?