The Effects of Temperature and Body Size on Poikilothermic Metabolism

An illustration of the $Q_{10}$ concept
Two questions:

• Does temperature affect metabolic rate in crayfish (*Procambarus alleni*)?
• Does size affect $Q_{10}$ in crayfish?

• What are the dependent variables?
• What are the independent variables?
Data analysis

• What we are doing is a **simplification** of what would normally be done
• Ignore independent variables that are irrelevant to the question you’re trying to answer
• Clump data to your advantage: ‘Cool’ group, ‘Warm’ group
• You will use t-tests and construct figures in Excel
  • What kind of t-test?
  • What kind of figures?
  • What is $n$?
• Two figures are required:

• What is required in a figure legend?
Introduction

• Remember, broad to specific, finishing with this experiment and your hypotheses
  • Don’t state the null hypothesis

• **Four** primary literature sources are required

• Potential topics within which to frame your report:
Methods

• Think about how to structure this section in terms of the two questions you’re presenting—this will save space in the long run

SUPERFLUOUS

• Whether the crayfish attacked you

NECESSARY

• How long crayfish were submerged
Discussion

• Briefly rehash results, formally state conclusions, and especially talk about implications/interpretations of those results and conclusions
  • Try to relate your findings to the literature

• Potential sources of error:
  • Potential improvements:
  • Potential future experiments:
Reminders

• 4 primary sources, not including lab manual
• Avoid direct quotes
• No raw data in results section
• SLU libraries has been helpful for finding sources
• You don’t need a lot of text in the Results section—what matters is that your figures are great
• Don’t do a “Materials” paragraph
• Expectations for titles will be higher this time
• Watch significant figures
• Avoid 1st person singular
• Keep methods in 3rd person