

## Animal Physiology Discussion Questions and Reading Assignments

## Is there a metabolic ceiling?

Read Hammond and Diamond 1997 about sustained metabolic scope, Notice the data in Peterson, Nagy, and Diamond 1990 in the shared Google Drive under "MetabolicRatePapers". https://tinyurl.com/2cpyxvct

| I. | Define metabolic ceiling and sustained metabolic scope. Be sure to include all of the key ideas. Why is it important to differentiate input vs. stores?   |
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| 2. | Wouldn't it be cool if the Tour de France athletes could complete the race in half the time with better training and unlimited fuel? Explain and differentiate the two hypotheses: the energy-consuming machinery ("peripheral limitations hypothesis"), or the energy-supplying machinery ("central limitation hypothesis"). |
| 3. | Evaluate the evidence in relation to these hypotheses. How does SusMS vary by mode of expenditure be specific? What does it tell you about the nature of the limitations, and why?  |
| 4  | What is the significance of the coupling (if any) of RMR and SusMR? From these observations, what is the argument for central vs. peripheral limitations?   |