Research on Energy in Concentration Differences Across Semipermeable Membranes

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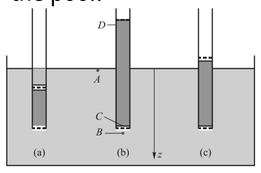
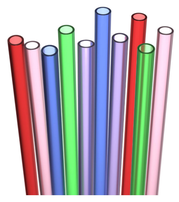
Introduction/Background

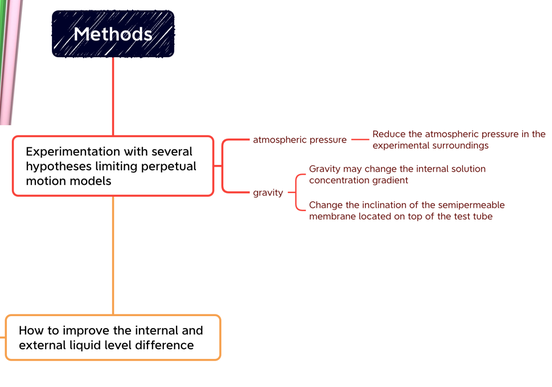
Place a tube containing a dilute sucrose solution and sealed at the bottom with a semi-permeable membrane vertically into a large pool filled with pure water. When equilibrium is reached, the level of the sugar solution is higher than that of the pure water in the pool. If a second semi-permeable membrane is then added at the middle of the tube, creating a double semi-permeable membrane - solution system, will pure water emerge from the top of the tube and will its level be higher than that in the pool?



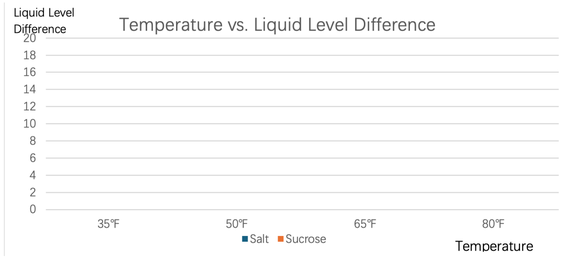
Material Preparation

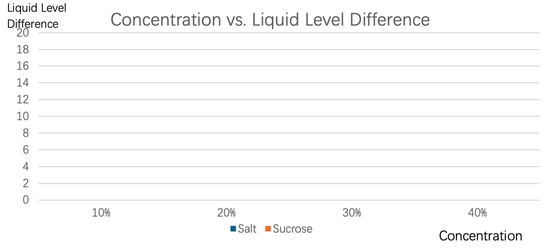


Methods



DATA



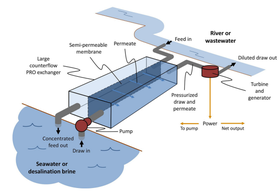


Discussion

Conclusion/Summary

Future Works

In today's society, energy and environmental issues are always of paramount importance. Although the perpetual motion machine of the semi-permeable membrane is a fallacy based on the law of conservation of energy, utilizing the concentration difference across a semi-permeable membrane to generate electricity could potentially achieve the effect of green energy. I believe this is feasible to a certain extent.



Reference