

Abstract Submitted
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A Study of the Influence of Water Circulation on Freezing
THERESA MOREAU, ROBERT LAMONTAGNE, Providence College — When a circulating pump is used to prevent the freezing of ponds during the winter months, it is often concluded by the lay observer that moving water will not freeze. However, when one considers heat exchange with the relatively warmer ground beneath the water, it becomes clear that thermodynamics plays a significant role in this phenomenon. As a student research project, we have conducted a simple experiment to isolate the effect of circulation itself on the freezing of water by insulating all but the surface of a water bath from its frigid environment. The results of this study will be presented.

Theresa Moreau
Providence College

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