A Simple Demonstration of the Maximum Density of Water

Grant O. Gale
Grinnell College

Copyright ©1944 Iowa Academy of Science, Inc.
Follow this and additional works at: https://scholarworks.uni.edu/ptas

Recommended Citation
Available at: https://scholarworks.uni.edu/ptas/vol51/iss1/37

This Research is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.
A SIMPLE DEMONSTRATION OF THE MAXIMUM DENSITY OF WATER

GRANT O. GALE

The usual Hope apparatus was used with thermo-junctions of iron and constantan replacing the thermometers. The advantage of this method over thermometers is apparent for demonstration purposes as the students can actually watch the temperature change by observing the deflection of a reflecting type galvanometer. The accompanying graph shows the deflection plotted against time. Beginning with tap water, the warm water rises. As the temperature drops due to the ice pack, the top and bottom temperatures come to the same temperature. At this point the thermo-electric current reverses, indicating that the top junction is colder. For demonstration purposes, it is sufficient to observe deflections, the galvanometer and couple could be calibrated in degrees difference of temperature. These data were taken by Miss Gerry Ross, a major student in the Department.

GRINNELL COLLEGE,
GRINNELL, IOWA.