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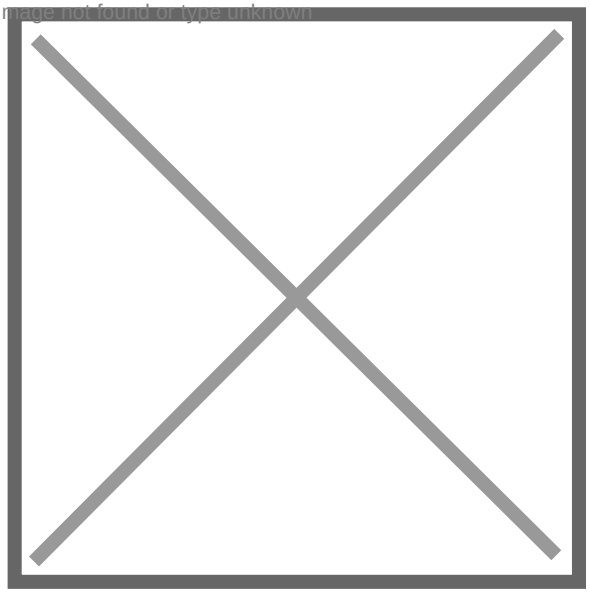
Product Name :

Hope's Law Apparatus

Product Code :

SLE/PHY/191

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Description :

Hope's Law Apparatus (Product Code: SLE/PHY/191) is a heat demonstration apparatus used to show that water has its maximum density at 4 °C, in school and college physics lessons on the unusual behaviour of water. It helps students explain why ponds and lakes freeze from the top down while aquatic life survives in the warmer water beneath the ice. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer of physics lab equipmentin India, at its own factory in Ambala.

Key Details

Parameter	Detail
Demonstrates	Water has its maximum density at 4 °C
Process shown	Convection continues until a dense layer of water at 4 °C forms at the bottom
Real-world link	Why ponds and lakes freeze from the top and aquatic life survives below the ice
Product code	SLE/PHY/191
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Hope's Law Apparatus Used For?

In the classic Hope's experiment, a column of water is cooled around its middle and its temperature is watched near the top and near the bottom. The lower reading falls steadily to 4 °C and stays there, and only then does the upper reading drop towards 0 °C, because water cooled below 4 °C becomes less dense and rises. Convection carries on until a dense layer of water at 4 °C sits at the bottom, making this a useful piece of thermometry apparatus for senior classes.

The same behaviour explains frozen ponds. Lakes are cooled from above; the surface water cools until it freezes, and the ice then insulates the denser water beneath so it cools more slowly, leaving a comparatively warm bottom layer where fish and plants survive. If water were densest at its freezing point, lakes would freeze solid and, since heat passes only slowly between air and ice, might not thaw even in summer.

What to Specify When Ordering

- Whether thermometers should be quoted — ask us to confirm exactly what is included with the apparatus.
- Number of sets, for a teacher demonstration or group practicals.
- Delivery location, for school, college, dealer or export orders.

OEM Manufacturer

ScienceLab is the brand under which Jain Scientific Equipments Private Limited manufactures this H
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