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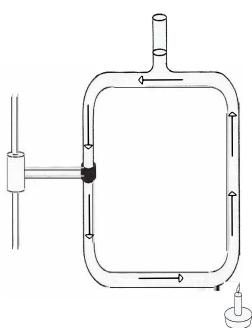


Convection of Liquids Glass Square #303

Warning:

Not a toy; use only in a laboratory or educational setting.





Introduction

Convection is the transfer of heat through a medium by the movement of heated particles. Convection currents are responsible for weather, winds, most heating and cooling systems, hot water tanks and hundreds of other phenomena. The Convection of Liquids Glass Square will allow you to see the currents as they travel.

Experiment

Other materials needed:

- 1. Food Coloring
- 2. Heat source (candle)
- 3. Support Stand
- 4. Clamp

Instructions:

- 1. Set up your support stand and attach the clamp.
- 2. Fill the glass square completely with cool water.
- 3. Attach glass square to the clamp.
- 4. Position your heat source under the corner of the square and light it.
- 5. Drop in food coloring (2-3 drops).
- 6. Observe the "trail" as it travels away from the heated side, to the bottom and back up the heated side.
- 7. Add more food coloring as it starts to disperse.

Go Further With Science!

Try to come up with other ways that convection currents are used. How could you use natural convection to cool a house with a basement? How do birds use convection currents? Using what you know about convection, what is the best way to build a campfire? Should heat ducts be placed low or high? Could convection currents be put to practical use performing any other types of work? What is the difference between convection and conduction?