



Convection Currents and Density of Air

For this activity, you will learn about convection currents in air and water.

Remember that:

- **Hot gases and liquids are less dense than cold ones.**
- **This makes the warm material rise and cold material fall.**
- **This is what causes most convection currents.**

Try this! Here are some ways you can feel CONVECTION CURRENTS IN AIR...

- A. If you hold your hand above a light bulb you will feel warm air rising.
- B. If you stand on a chair or ladder so that your head is almost touching the ceiling, you will feel that the air is warmer up there.
- C. Have you ever felt cold air dropping? Follow the four steps described below.
 1. Put an empty, sealed jar in the refrigerator freezer for about 15 minutes. (Of course, it is not empty; it has air in it.)
 2. Take the jar out and take off the lid.
 3. Now slowly tip it over as if you were pouring water out of it.
 4. Hold one hand under it and you will feel the cold air falling onto your hand!

Try this, too! Follow the steps below to see a CONVECTION CURRENT IN WATER.

1. Put a drop of food coloring in a jar of water. Put the jar in the refrigerator for 30 minutes.
2. Fill a glass with warm water, with no coloring in it.
3. Very gently pour the cold, colored water *into* the warm uncolored water.
4. What happens? Did you see a convection current?