Convection Current Demonstration

This experiment can also be done individually by the students, or in small groups.

Setup: fill a clear glass or plastic tank ½-3/4 of the way full with room-temperature water. Set 4 of the styrofoam cups upside-down on a flat surface (table or desk). Space the cups out so that they support the corners of the tank, and set the tank on top of them, as shown in the diagram below:

 Procedure:

1. Fill a cup with ice water
2. Fill a cup with hot water
3. Place the cup with hot water under one end of the tank, and place the cup with cold water under the tank at the opposite end.
4. Let the system sit for a few minutes. In the meantime, fill two cups with room-temperature water and put a few drops of food coloring in them – cup with red and one cup with blue.
5. Ask students what they think will happen when you pour both the colored waters into the tank – what color will the water be?
6. Gently pour the red water in the end of the tank that is over the hot water
7. Gently pour the blue water in the end of the tank that is over the ice water.
8. Have the students record their observations