**Why does air move?**

**Lab Instructions #1**

**Materials:**

Plastic water bottle Two containers

Ice water Balloon

Hot water Safety glasses

**Procedure:**

**Trial 1**

1. Put on safety glasses.
2. Place the uncovered bottle in the bucket of hot water for three minutes. Do not submerge the bottle or allow water to get into the bottle. You will probably have to hold it in place to keep it upright.
3. Keeping the bottle in the water, place the balloon over the mouth of the bottle. You have now isolated a mass of air. It is important to remember throughout this trial that the amount or mass of air will remain constant.
4. In the table marked "Trial I Predictions," suggest what will happen to the balloon when the bottle is placed in a bucket of ice water. Explain your prediction.
5. Place the bottle in the bucket of ice water. In the table marked "Trial I Observation," describe what happens. Remembering that the mass of the air has remained constant, explain what has changed.

**Trial 2**

1. Put on safety glasses.
2. Take the balloon off the bottle and place the bottle back in the bucket of ice water for three minutes. Do not submerge the bottle or allow water to enter it.
3. Place the balloon over the mouth of the bottle. As in Trial 1, you have isolated a mass of air. Again, it is important to remember throughout this trial that the amount, or mass, of air will remain constant.
4. In the table marked "Trial 2 Prediction," suggest what will happen to the balloon when the bottle is placed in a bucket of hot water. Explain your prediction.
5. In the table marked "Trial 2 Observation," describe what happens when the bottle is placed in the hot water. Remembering that the mass of the air has remained constant, explain what has changed.
6. How to clean up:
   1. Empty water from both trays.
   2. Place the water bottle, balloon, and safety glasses next to the trays on the table.
   3. Dry any spilt water and throw your paper towel away.