

Name _____ Period _____ Date _____
Air Pressure Demonstration

Objective: investigate the effects of the atmospheric pressure.

Important Points to Understand:

1. Air has mass and exerts pressure on everything with which it comes in contact.
2. The force exerted on a surface by air is equal to the pressure of a column of air above the surface extending to the top of the atmosphere.
3. Air pressure is exerted equally in all directions.

Procedure

Trial 1: Predict what will happen if the cup filled with water is overturned?

The result?

Trial 2: Predict what will happen when a cup of water is overturned when there is an index card covering the cup?

The result?

Trial 3: Predict what will happen when a cup of water is overturned when there is an index card covering the cup - which has a hole in the bottom?

The result?

Questions

1. In Trial 1, what caused the water to fall out of the cup?
2. In Trial 2, what held the index card to the cup? What prevented the water from falling out of the cup as it had done in Trial 1?
3. Explain why the water and the index card fell from the cup in Trial 3 of the demonstration.
4. Based on your observations, in which direction(s) is air pressure being exerted? Draw a picture representing your explanation and explain the phenomenon of air pressure in your own words?
5. Try to explain why we usually do not feel the pressure of the atmosphere around us. When do we feel air pressure?