

Flip the cup

Purpose:

To demonstrate the effects of air pressure

Materials:

1. Plastic cup (9 oz. Works well)
2. Paper plate (the little hamburger plates work well)
3. water

Problem:

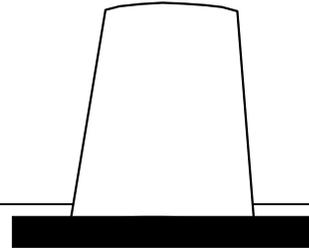
What will happen to the water?

Hypothesis:

Have students answer problem question before doing experiment

Procedure:

1. Fill cup with water
2. Place plate over cup, pushing the palm of your hand over the rim of the cup
3. Flip the cup over
4. Hold on to the cup.
5. Let go of the plate



Results:

The water stays in the cup.

Conclusion:

We are swimming in a sea of air all the time. There is so much air around us and piled on top of us that it pushes with a force of over 14 pounds for every square inch of stuff. In a natural state, air takes up all the spaces around the cup, in the cup, and around the water.

When you flip the cup the air around the cup is actually pushing harder than gravity can pull the water in the cup, so the water stays in the cup ... held there by the pressure of the air around it.