

Name _____
Mrs. Krieger

Date _____

Under Pressure

Introduction:

Air has weight, yet we don't feel it. The weight of the air on Earth's surface produces air pressure. Because we have lived our whole lives exposed to the weight of the atmosphere, we tend to be unaware of its effects. The following activities will give you an opportunity to see that air pressure, caused by the weight of the atmosphere, can produce some unexpected results.

Materials:

Ruler	Newspaper
Paper Cup	Index Card
Plastic Container	Jar
Plastic Baggie	Rubber Band



Procedure:

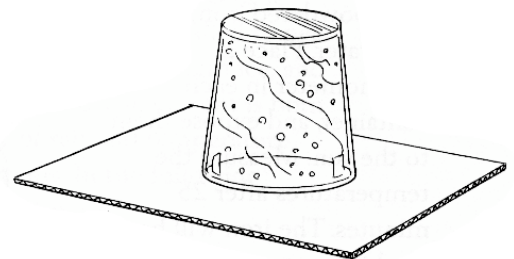
Part A.

1. Place one end of the ruler on a table with slightly less than half the ruler hanging off the edge.
2. Lay a sheet of newspaper over the part of the ruler on the table.
3. Strike the protruding end of the ruler as hard as you can.

What happened? Explain your observations in terms of air pressure. _____

Part B.

1. Working over the plastic container, fill the cup up to the rim with water.
2. Cover it with the index card, and make sure that you have created a water seal around the rim of the cup, so that no air can seep in.
3. While holding the index card on top of the cup, carefully turn the cup over.
4. Hold the cup around the rim at the bottom so that the cup is not deformed (bent) and remove the hand holding the card.

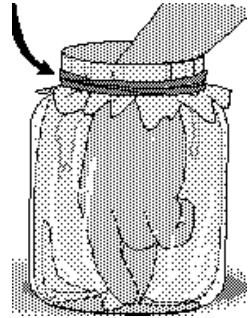


What happened? Explain your observations in terms of air pressure. _____

Part C.

1. Push the plastic baggie deep into the jar.
2. Fold the plastic over the rim, and wrap it as tightly as possible to make an airtight seal.
3. Gently try to pull the bottom of the bag back out of the jar.

Why is this hard to do? Explain your answer in terms of air pressure. _____

**Part D.**

1. Observe Mrs. Krieger's demonstration carefully.

What happened to the can? _____

What does this tell you about air pressure? _____

