

Launch Lab: Balloon in a Bottle

You cannot see most gases, but you can learn about some of the properties of gases by creating situations that you can visualize. In this activity, you will deduce some properties of gases by blowing up a balloon inside a bottle.

Safety Precautions

- Be careful with the sharp point of the scissors when piercing the plastic bottle.
- Your teacher might choose to do this activity as a demonstration.

Materials

- 1 L or 2 L clean plastic soft drink or juice bottle
- round balloon
- pointed scissors, or sharp object

Procedure

1. Hold the open end of the balloon while you insert the closed end into the bottle. Stretch the open end of the balloon over the lip of the bottle as shown in the photograph.
2. Predict how much you will be able to inflate the balloon inside the bottle, relative to the size of the bottle. Record your prediction.
3. Inflate the balloon inside the bottle. How large does it get? Record your observations. Allow the balloon to deflate.
4. Using the sharp end of a pair of scissors, puncture a hole in the middle of the bottom of the plastic bottle. Inflate the balloon again. Record your observations.



Analysis

1. Was your prediction in Step 2 verified when you carried out Step 3? What happened to the air already inside the bottle when you blew up the balloon inside the bottle?

