

Balloon in a Beaker

Purpose

To demonstrate the relationship between temperature and volume of a gas.

Materials

liquid nitrogen and dewar	100 mL beaker
balloon	asbestos gloves

Procedure

1. Blow up a balloon to a volume of about one liter (not crucial, just so that it is considerably larger than the beaker).
2. Pour liquid nitrogen over the balloon and then pick up the balloon (be careful!) and put it in the beaker.
3. Notice that the balloon eventually expands and leaves the beaker.

Additional Information

1. The larger the difference in volume between the balloon and beaker, the more dramatic the demonstration.

Disposal

The balloon can be thrown away.

Reference

University of Illinois, Urbana-Champaign.