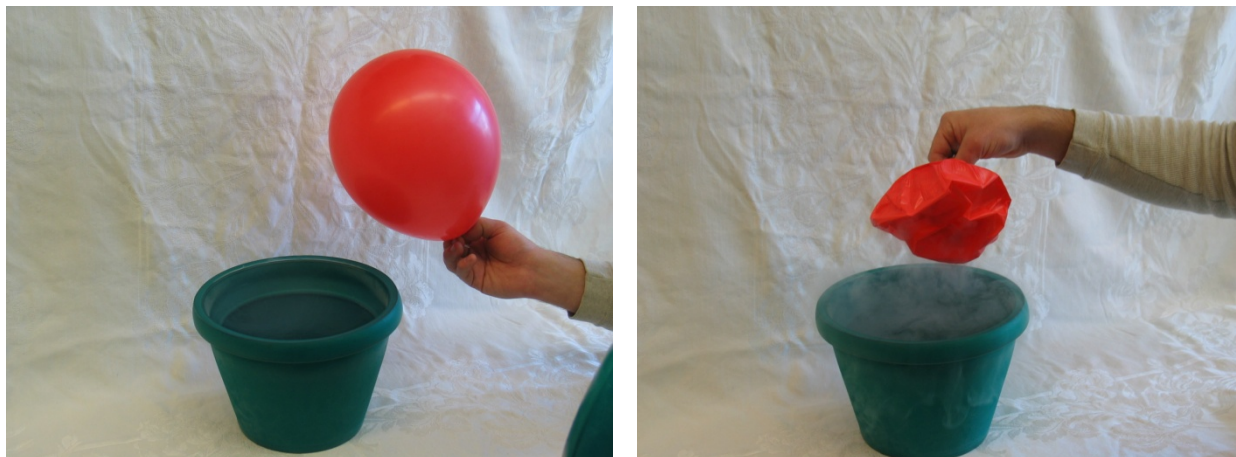


Liquefying “Air” in a Balloon



Purpose: To demonstrate that when the nitrogen in air is cooled to sufficiently low temperature it becomes a liquid

Location: room136: balloons on shelf M4, bucket on shelf I2
Liquid nitrogen available through lab coordinator (Ron Bruner) or instrument coordinator (Carl Lunk) or Prof. Hettinger.

Obtain liquid nitrogen and fill the green ice bucket about halfway. (Use eye protection and do not let students handle LN_2 .) Then, blow up a balloon (not too big to fit into the bucket) and immerse it in the liquid nitrogen. If you hold it there long enough the nitrogen component of the air in it will liquefy! (Jiggle it or hold it to the light to see that there is liquid in the balloon.) Remove the balloon and watch it inflate to its original size as the nitrogen inside vaporizes back into a gas.