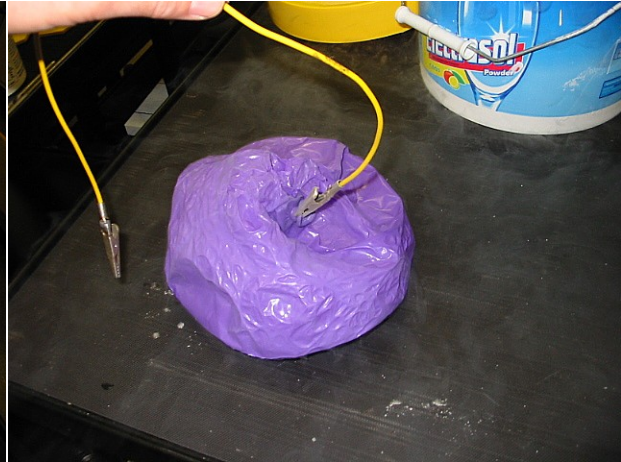


$$PV=nRT ?$$



Ready to freeze...



Frozen



Thawed!

**Purpose:** Demonstrates the relation between the volume and temperature of a gas.

Here is a simple and fun demo: Put a balloon into a bucket, and pour some liquid nitrogen over it. It shrinks to a tiny, wizened shadow of its former self. Then as it heats back up slowly, it regains its former glory.

**Note:** Some web pages that I have looked at claim this is constant pressure process. I do not think I believe this: what about the inward pressure due to the balloon's elasticity? Surely this depends on volume and temperature.

**Extra Equipment:** Bucket, liquid nitrogen container, and liquid nitrogen (1<sup>st</sup> floor)

**Location:** Shelf D4 (Balloons)