

-195,79°C



-195,79°C

At -195,79°C nitrogen becomes liquid

To manipulate liquid nitrogen,
you need:

- To wear protective gloves.
- To wear goggles.
- Never put liquid nitrogen in a sealed container.

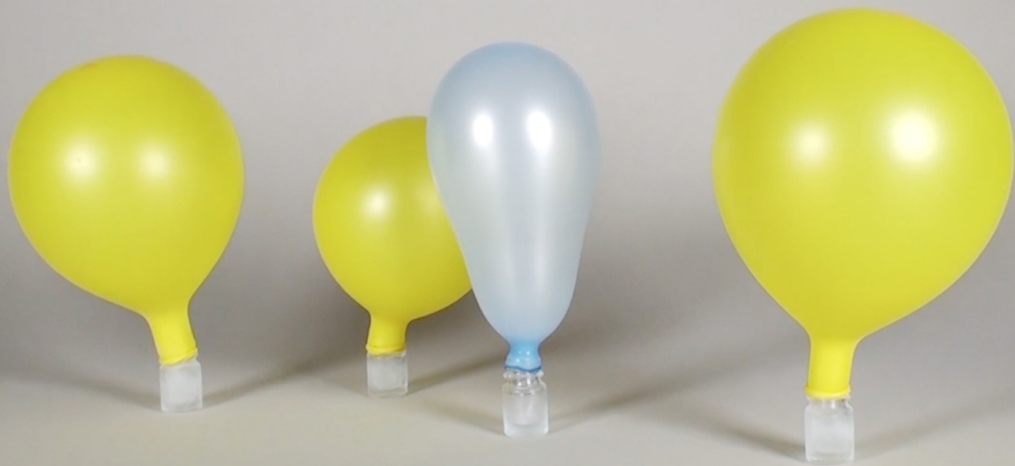
The air we breathe is composed
of 80% nitrogen.

At -195,79°C (-320°F) nitrogen
becomes liquid.

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*In order to inflate a balloon without
using your mouth*

you need:

- liquid nitrogen (-195,79°C)
 - a balloon
 - a vial
-
- Pour a drop of liquid nitrogen in the vial.
 - Fix the balloon on top of it.
 - Watch it inflate.

When liquid nitrogen evaporates, it expands 694 times in volume. The balloon above inflates due to the evaporating liquid nitrogen.

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In order to achieve levitation

il faut :

- liquid nitrogen (-195,79°C)
 - a superconducting pellet
 - a magnet
 - a container
-
- Pour liquid nitrogen in the container.
 - Place the superconducting pellet in the liquid nitrogen.
 - Wait for his complete cooling.
 - Approach the magnet very close and press.
 - Watch it levitate.

When a supraconducting pellet is placed near a magnet, it traps the magnetic field of the magnet and keeps it at a fixed distance.

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In order to make a cloud

you need:

- liquid nitrogen (-195,79°C)
 - boiling water
 - a cup
-
- Pour liquid nitrogen in the cup.
 - Pour the boiling water.
 - Watch it steam.

When liquid nitrogen boils, it cools down the air above. Then it makes fine drops of water or fine ice crystals that forms a cloud.

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In order to deflete and inflate a balloon without touching it

you need:

- liquid nitrogen (-195,79°C)
 - an helium filled balloon
 - a container
-
- Pour the liquid nitrogen in the container.
 - Put the balloon in the liquid nitrogen until it gets smaller.
 - Take back the balloon.
 - Watch it inflate and fly away.

In liquid nitrogen, helium becomes 3.7 times colder. This makes it 3.7 smaller.

This is the Ideal Gas Law.

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In order to make a balloon dance

il faut :

- liquid nitrogen (-195,79°C)
 - some inflated balloons
 - a container
-
- Pour the liquid nitrogen in the container.
 - Place the balloons in the container one after another.
 - Spill the content of the container.
 - Watch it inflate and dance.

In liquid nitrogen, the air inside the balloon liquefies and occupies 700 times less space. Once reheated, the air in the balloon returns to its initial volume.

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In order to make an icy coating

you need:

- liquid nitrogen (-195,79°C)
 - a soft solid
 - any kind of liquids
 - any powder
-
- Dip successively the soft solid in the liquid and the nitrogen until its gets the desired size.
 - Dip for the last time the soft solid in the liquid and then in the powder.
 - Watch it melt or taste.

At a low temperature liquids become solid and soft solids becomes harder.

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In order to drive a ball crazy

il faut :

- liquid nitrogen (-195,79°C)
 - a ping pong ball
 - a needle
 - a container
-
- Pierce a tiny hole in the ball with the needle.
 - Pour the liquid nitrogen in the container.
 - Immerse the ball during 15 seconds.
 - Take it back and watch it becoming crazy.

When liquid nitrogen evaporates, it expands 694 times in volume. A tremendous amount of force can be created when placed in an enclosed space.

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In order to drive a magnet crazy over a distance

you need:

- liquid nitrogen (-195,79°C)
 - a container
 - 6 superconducting pellet
 - some magnets
 - protective goggles
-
- Place the superconducting pellets in the container.
 - Pour the liquid nitrogen in the container.
 - Make a first magnet levitate.
 - Raise the container.
 - Approach the other magnets.
 - Watch it spin.

A superconducting pellet makes a magnet levitate because it expels its magnetic field. When approaching other magnets, their magnetic field attracts or repels the levitating magnet.

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In order to make a fountain of smoke

you need:

- liquid nitrogen (-195,79°C)
- boiling water
- a container
- any volume with a hole
- Pour the liquid nitrogen in the container.
- Place the volume in the liquid nitrogen.
- Pour the boiling water in the volume.
- Watch it steam.

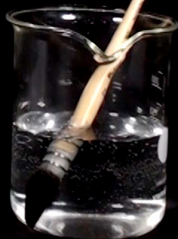
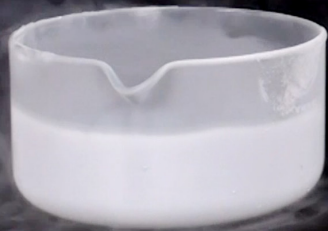
Nitrogen boils because of boiling water, creating a water vapour cloud.

By doing so, any volume with a hole could play the role of a fountain of smoke.

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In order to reveal the invisible

il faut:

- liquid nitrogen (-195,79°C)
 - water
 - black paper
 - a paintbrush
-
- Moisten the paintbrush in the water and write anything on the paper.
 - Put the paper in the liquid nitrogen for a few seconds.
 - Watch it reveal.

When the water frozen by the nitrogen warms up, it starts to frost.

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In order to freeze instantly

you need:

- liquid nitrogen (-195,79°C)
 - some containers
 - liquids with different types of viscosity
-
- Pour the liquid nitrogen in the containers.
 - Pour the different liquids in the different containers.
 - Watch it melt and compare.

Almost all types of liquids freeze in the liquid nitrogen. The liquids will start melting at different times depending on their viscosity and mass.

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