

Title:

How Does A Refrigerator Work?

Word Count:

845

Summary:

This is similar to what happens inside older refrigerators. Instead of water, though, the refr

Keywords:

Shorting ,grading, packing of fruits and vegetables, Reefer logistics, Reefer trucks , Temper

Article Body:

In the summertime, have you ever gotten out of a swimming pool and then felt very cold standing

This is similar to what happens inside older refrigerators. Instead of water, though, the refr
There are two things that need to be known for refrigeration.

1. A gas cools on expansion.
2. When you have two things that are different temperatures that touch or are near each o

Old Refrigerators

If you look at the back or bottom of an older refrigerator, you'll see a long thin tube that l

Inside the tube is Freon, a type of gas. Freon is the brand name of the gas. This gas, chemica

CFC starts out as a liquid. The pump pushes the CFC through a lot of coils in the freezer area

In the regular part of your refrigerator, there are fewer coils and a larger space. So, less h

The pump then sucks the CFC as a vapor and forces it through thinner pipes which are on the ou

Once the CFC passes through the outside coils, the liquid is ready to go back through the free

Today's Refrigerators

Modern refrigerators don't use CFC. Instead they use ammonia gas. Ammonia gas turns into a liq

A motor and compressor squeezes the ammonia gas. When it is compressed, a gas heats up as it i

Remember the law of thermodynamics.

As it cools, the ammonia gas can change into ammonia liquid because it is under a high pressur

The ammonia liquid flows through what's called an expansion valve, a tiny small hole that the

When the liquid ammonia hits a low pressure area it boils and changes into a gas. This is call

The coils then go through the freezer and regular part of the refrigerator where the colder am

The compressor sucks up the cold ammonia gas, and the gas goes back through the same process o

How Does the Temperature Stay the Same Inside?

A device called a thermocouple (it's basically a thermometer) can sense when the temperature i

But the refrigerator is not completely sealed. There are places, like around the doors and whe

So when the cold from inside the refrigerator starts to leak out and the heat leaks in, the th
That's why you'll hear your refrigerator compressor motor coming on, running for a little whil
Today's refrigerators, however, are very energy efficient. Ones sold today use about one-tenth

For more information go to:

- Argone National Laboratory - Ask A Scientist (<http://newton.dep.anl.gov/newton/askasci>)
- Mr. Hand's 8th Grade Science Site (www.mansfieldct.org/schools/mms/staff/hand/heatrefr)
- How Stuff Works - Refrigerator (www.howstuffworks.com/refrigerator.htm)
- Science Treasure Trove - refrigerator page (www.education.eth.net/acads/treasure_trove)

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