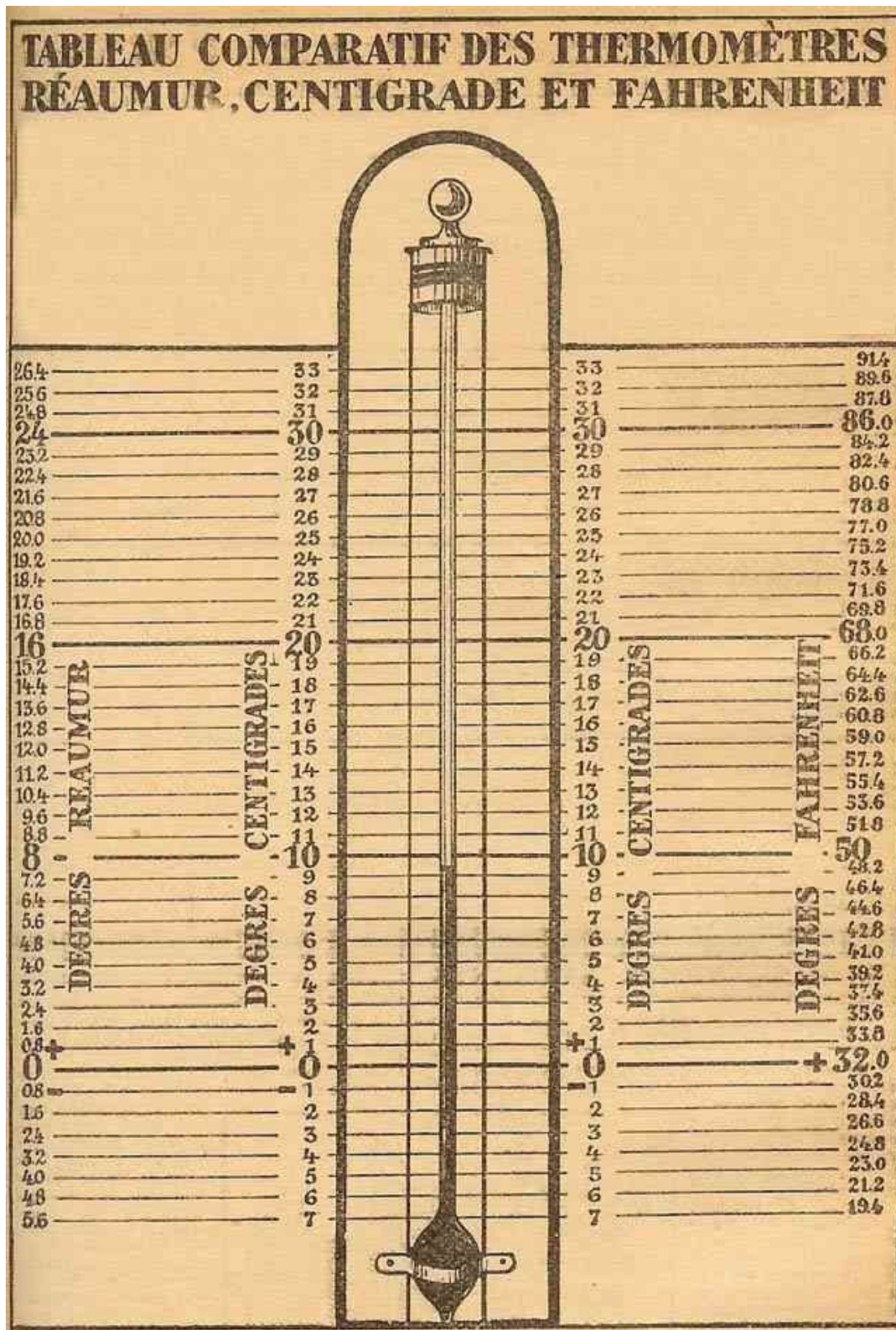


CANS OF JAM²





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issue 20, New Team, November 2013

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From the editor

Good day to you all, and welcome to the latest issue of *cans of jam*²!

Well, another school year has started, and as the title of this issue suggests, there has been a LOT of changes at *cans of jam*² and in our school : our head of school and deputy head have both changed; my co-editor has gone away to another lycée and left me alone, even if you will certainly hear from him now and then : we are working on a partnership project between our two schools; and all these changes have meant huge differences in the way we worked : instead of having five hours a week of phyish (that is short for '**physics** and chemistry in English'), with five different groups of pupils, which meant roughly seventy to eighty potential reporters from 2nde to terminale (including scientific terminale), we are down -I mean, **I** am down- to one hour every two weeks with only one group of about twenty pupils from seconde... So even if they seem eager, our magazine is likely to get slimmer.

But anyway, I would like to say sincere goodbyes and thanks to some of our keenest reporters : Orphélia R., who was three years with us, and who got an outstanding mark in English for her baccalauréat and made us very proud; but also younger-but-eager reporters like Julien D., Jean C.C., Thomas D., and Robin G., who cannot join the phyish class this year (because there is none for them), but whose articles will be more than welcome if they want to send some material!

Now, in this issue, as you may have guessed from our cover, we will talk about temperatures, which is a perfect topic for this time of year! So sit back, and enjoy your (short) read!

Didier G.

Readers' emails (translated by the editor)

We only had two messages during the summer holidays, but they came from inspectors; it is always very pleasant to be congratulated, and we want to extend these congratulations to the pupils, so here they are!

Thank you Didier [and Willy]!

Enjoy your holidays, and congratulations for the latest issue of *cans of jam*²!!!

Wendy , from Amiens, 80

Thank you, I transfer your message so that this latest issue will soon go on line. Congratulations for your work. Enjoy your holidays.

Pierre, from Amiens, 80

Cryo-preservation

By Damien D. and Arnaud M.

Can we come back to life? Can we be young and eternal? Cryo-preservation could give humans what they have looked for since immemorial times : immortality.

History

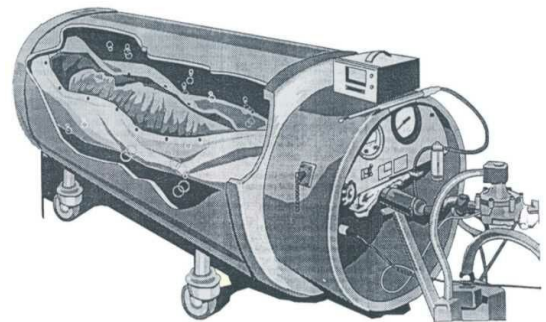
At the beginning, this process named 'cryobiology' was used to freeze bull sperm to 'create' a baby without sexual relations. Thereafter, it was called 'cryopreservation'. In 1964, a chemistry professor wrote the theory of human preservation by freezing.

The process

First part : Just after the death of the patient, his/her body is cooled down to 0°C (32°F) and a lung-heart machine gives him/her the oxygen.

Second part : The organism of the patient is slowed down thanks to medicine. Then, his/her blood is replaced by a synthetic solution to prevent bacteria development.

Third part : To finish, the body is cooled down at -196°C (-320,8°F) in a liquid nitrogen container.



But, there is a problem...

For the moment, we cannot resuscitate a dead body several years after the cryopreservation. But we hope that in the distant future, people can revive thanks to medical progress.

Currently, 117 patients are cryopreserved in the world and are waiting for a potential resurrection.



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°Fahrenheit is different from °Celsius

According to the system of measure, we count the temperature in Celsius degrees (°C) or Fahrenheit degrees (°F) in the U.S.A and Anglo-Saxon countries.

In 1724 Daniel Gabriel Fahrenheit presented his system of measure that was accepted. In 1742, another scientist, Anders Celsius, developed

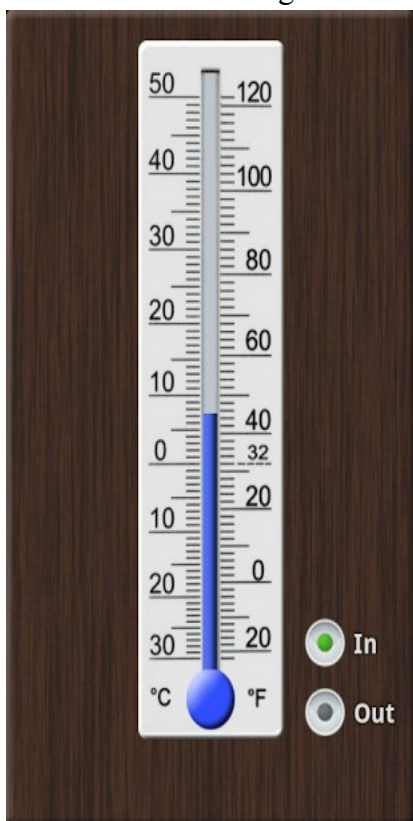
another temperature scale which was officially adopted in 1948 but the Fahrenheit is still used by the U.S.A and the Anglo-Saxon countries.



Daniel
Fahrenheit



Anders
Celsius



If you want to make the conversion, you have to subtract 32 and divide by 1.8 to get the temperature in Celsius degrees.

The complete calculation formula is:

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$$

$$^{\circ}\text{F} = ^{\circ}\text{C} \times 9/5 + 32$$

Water freezes at 0°C and 32°F.

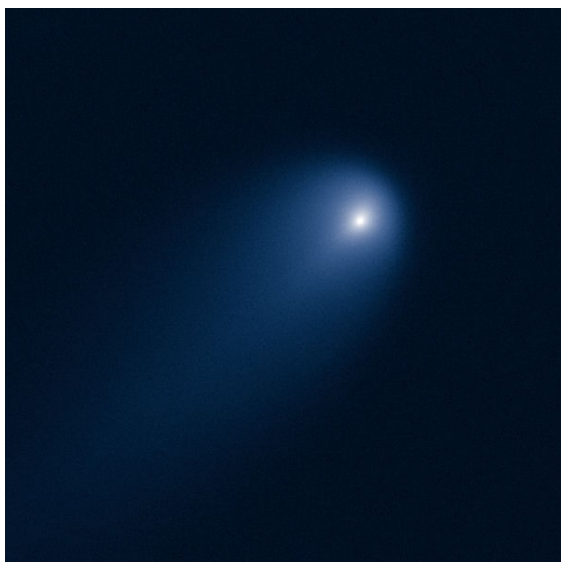
The human body is 37°C and 98,6°F.

Water boils at 100°C and 212°F.

Now that you know all, can you find the temperature which has the same value in Celsius and Fahrenheit degrees?

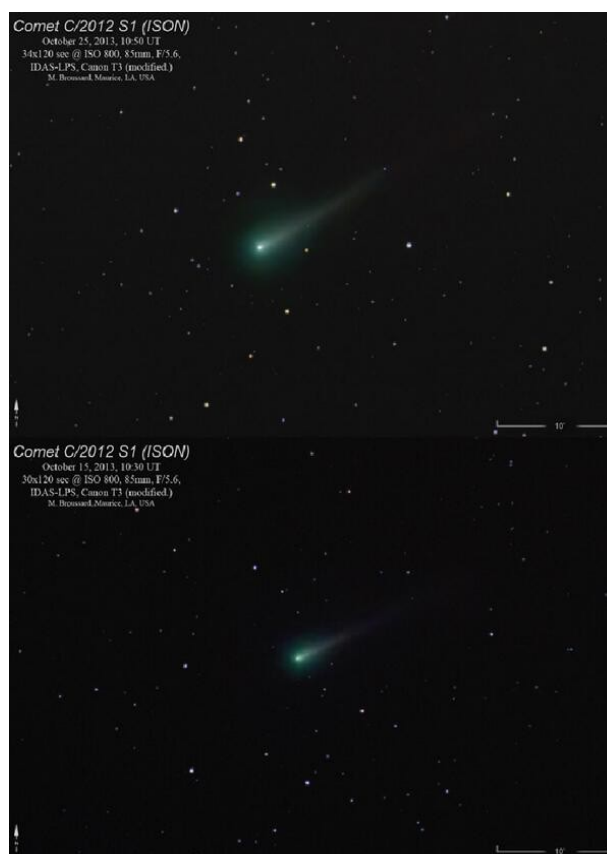
The comet Ison

by Alexis V.



The comet Ison is a sungrazing comet discovered on 21 September 2012. It was discovered by Vitali Nevski and Artyom Novichonok in Russia. The comet is very luminous and we could soon see it with our naked eyes. We will be able to see it in November and December 2013. It will pass in front of us. But it will also pass very close to the sun and perhaps melt. So maybe we will not be able to see it, we don't know yet. If the comet doesn't melt it could be wonderful because the comet would floodlight our sky maybe until Christmas.

As you can see on the two photos (right), dated from October 15th (right, below) and October 25th (right, above), its tail is growing, and it might become visible to the naked eye very soon...



Cans of jam² is a scientific magazine written by the pupils from the European classes of Paul Langevin High School in Beauvais, Oise. It is free, available mainly through internet, and usually published for each school holiday period.

If you want to subscribe and receive an internet copy of cans of jam², all you need to do is send an email entitled 'cans of jam², subscription' to didier.galard@ac-amiens.fr, and you will be added to our mailing lists. And that is free as well!!