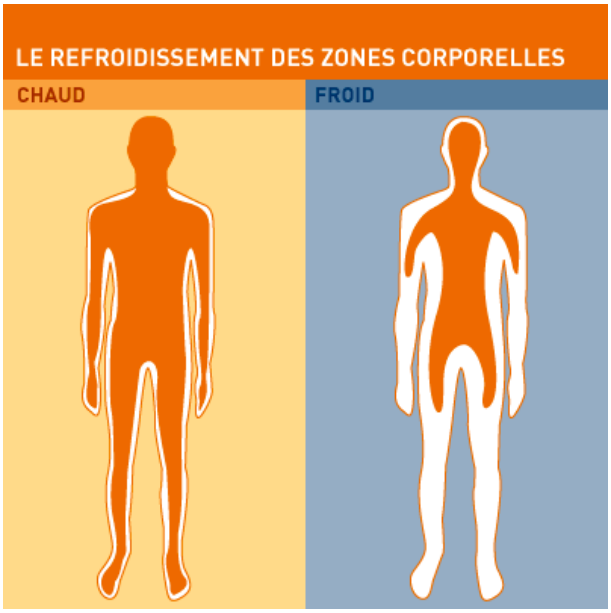
MAN, AN ANIMAL THAT LIVES AT 37°C

In order to survive, Man must keep his body temperature at close to 37°C. This is indispensable to the proper functioning of vital organs such as heart, brain, lungs, liver and kidneys. However, the peripheral areas of the body (skin, limbs...) can support much colder temperatures. But we must beware of frostbite (usually the hands and feet) and must not let our internal body temperature drop too far (hypothermia); the heart stops at 25°C.



THERMOSTATICALLY CONTROLLED CENTRAL HEATING

Our body is capable of combating the cold. Certain skin cells send warning of a fall in the outside temperature, and immediately we begin to shiver and tremble, thus generating energy, and we instinctively curl up into a ball to limit heat loss. Our organism is capable of reducing blood flow under the skin and increasing its production of heat (thermoregulation). Consuming more food (fats, hot drinks) can also help us cope with the cold.

TO KEEP OUT THE COLD, WE MUST... KEEP COVERED !

Both wind and humidity accentuate the effects of the cold on our body because they increase heat loss. The best protection, the best insulator is still, warm air. So the best way to keep warm is to wear multiple layers of loose clothing, covered by something to keep out the wind. But to avoid humidity, we should sweat as little as possible, so our clothing must always be suited to our activity.

LE VENT AMPLIFIE LE REFROIDISSEMENT

Vitesse du vent (km/h)	Température ambiante (°C)										
	0°	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
	Température de refroidissement équivalente (°C)										
16	-8	-14	-20	-26	-32	-38	-44	-51	-57	-63	-69
32	-14	-21	-28	-36	-42	-49	-57	-64	-71	-78	-85
48	-17	-25	-33	-40	-48	-56	-63	-72	-78	-86	-94
64	-19	-27	-35	-43	-51	-59	-66	-74	-82	-90	-98
80	-20	-28	-36	-44	-52	-60	-68	-76	-84	-92	-100
	Faible danger...		Grand danger...			Danger considérable...				...pour un corps exposé au froid.	

CAN OUR BODY ADAPT TO THE COLD ?

During his solo walk to the North Pole, Jean-Louis Etienne had to bear extreme cold for several weeks. By the time he returned, his body temperature could fall to 35.5°C when he was at rest without adverse consequences. It had reached a new equilibrium that allowed it to save energy.