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? WHY THE WEATHER ?

Dr. Charles F. Brooks,  
Secretary, American Meteorological Society,  
describes:

THE BLACK-BULB THERMOMETER

If one should give the bulb of an ordinary thermometer a coating of lamp-black or other opaque black substance and expose it to bright sunshine on a quiet day when the mercury stands, say, at 10 above zero, the instrument would probably register 60 or 70 degrees. This would be a crude type of black-bulb thermometer, an instrument now seldom used in the United States but more generally in Canada and Europe. It measures what is sometimes called "sun temperature". A black overcoat exposed to the sun at the same moment would have much the same high temperature, because it was black. A white garment would register very much lower. For example, on a bright winter afternoon when the air temperature was 28, a piece of a black cat's fur frozen in a snowdrift had a temperature of 62, while soiled white fur adjoining had a temperature about ten degrees lower. The black absorbs the heat, the white reflects much of it.

The black bulb thermometer of science is a standard thermometer with a blackened bulb enclosed in a vacuum tube, for which latter reason it would be more accurate than the makeshift device referred to because the wind is kept out. But the principle is the same. The heat absorbed gives a much higher temperature than that of the surrounding air.

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(Tomorrow: Arctic Explorer's Sun-heated Bag)

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