Sodium bromide	—24°	41.33%
Sodium nitrate	—17.5°	40.8 %
Ammonium chloride	—15°	19.27%

If the temperature falls below the value given for any salt in table, the solution freezes as a mixture of ice and salt crystals. Such a frozen mixture is called a cryohydrate. Ordinarily, when a salt solution freezes, it freezes as pure water leaving the salt in the unfrozen brine. A large bottle of any colored salt solution freezes in an interesting manner. It begins freezing as clear ice in the layers next to the glass and freezes inward as the temperature falls lower and lower. The concentration becomes greater and greater until at the cryohydric point the solution freezes as a colored mass. A glance at the table shows the temperatures necessary to accomplish this for different salts. If ice be placed in a solution of any of these salts the temperature is lowered and may reach the cryohydric temperature. Thus we have a means of producing moderately low temperatures.

2. Boiling under reduced pressure. Water boils at 100° under atmospheric pressure because the pressure of its vapour at this temperature is equal to the atmospheric pressure. Consequently, the tiny bubbles of air contained in the water are filled up with water vapour at atmospheric pressure and any additional pressure, even if very slight, causes these bubbles to grow, filling with vapour as they grow, until they rise to the top of the liquid and burst. Consequently, if we lower the pressure of the air on the liquid it will boil at a lower temperature. The heat abstracted during the boiling is the cause of the lowering of the temperature.

If the pressure be kept constant, the temperature of the boiling liquid may be maintained accurately constant for many hours. With ordinary ether the temperature may be lowered to approximately —100° if the vapour be removed by a powerful pump. Water may be boiled in this way and actually frozen by the abstraction of heat. [Experiment shown].

In the following table are given, in order, normal boiling points of common liquids, freezing points, and critical temperatures. The critical temperature of a substance is the