

Igloo Design Principles

Wind blown snow is the best material for building a standard snow-house type of igloo structure whether small or large. The irregular shape of the crystals lock together well. This gives a solid, sturdy composition to the blocks that helps them to lock together. It is also easy and fast to work with. Snow blocks are lighter than ice blocks so they are easier and often safer to handle, especially when lifting them higher for the top of the dome.

Basic igloo construction is pretty simple. Essentially, an igloo is a dome made from snow with a few features added, such as an entrance passage, a ventilation hole, an optional window, and an optional raised section inside to elevate the living area higher where the warmer air will be. A lining of skin can raise the interior temperature by as much as eight degrees Celsius or 32 degrees Fahrenheit depending on the outside temperature range. (Adding the skin lining is not by any means standard practice.)

When an igloo is started, it is common practice to create the bottom foundation ring first by stamping out the circumference in the snow and then building the first ring as a sort of ramp starting flush with the ground and rising up to the height of approximately one-half to one-and-a-half snow blocks when the foundation circle returns to the starting point. A standard technique used by the Inuit is to build the bottom ring with blocks of the same height and then cut the ramp into the ring with a knife or snow saw. Then, as the igloo rises, it forms a long spiral all the way to the top. If you are using a form to make the snow blocks, it's usually easier to make the blocks all the same then cut them to shape once they are in place.

An igloo is built much the same way that building with bricks and mortar is with the snow blocks being the bricks and additional loose snow packed in the cracks to seal them like mortar and chinking.

MADE IN CANADA

...Where Igloos Were Invented