POLAR BEAR ADAPTATIONS

Polar bears are well-adapted to living in the cold Arctic climate and its harsh terrain.

Two thick layers of fur
Together, outer guard hairs and inner insulating hairs help prevent almost all heath loss from a bear's body.

Thick later of fat
Around its whole body, a polar bear has a layer of fat that can be over 11cm (4.5 inches) thick. This helps provide insulation from cold air and cold water.

Small appendages and short limbs
Polar bears have relatively low surface-area-to-volume ratios, which minimizes the surface area to dissipate heat and allows them to retain heat.

Large paws
A polar bear's paws can grow up to 30cm (12 inches) across. They disperse the bear's weight more evenly on the snow and ice – much like a snow shoe – which allows the bear to stay on the surface.

Bumpy footpads
Polar bears have small bumps called papillae on their footpads which help them keep traction on slippery surfaces.

Thick claws
Strong, thick claws help grip on ice and snow. They also help pull large seals out of the water.

Other adaptations
There are numerous of other characteristics that allow polar bears to live in the Arctic.
Consider their sharp teeth, their fat-specific digestive system, and their sensitive sense of smell – how might those traits be advantageous?

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