

9.4

Using Technology to Survive

Humans do not have the adaptations that allow other organisms to survive extreme environments. Instead, humans have developed the tools, or the **technology**, to make it possible to survive in challenging environments. For example, Aboriginal peoples have used technology for thousands of years to survive the challenging conditions in the northern areas of Canada.

Let's take a closer look at some of the ways that the Inuit were able to survive in the extreme conditions of the Arctic.



Figure 1

Snow Houses

The Inuit snow house is an engineering marvel (**Figure 1**). It was constructed in the form of a dome, using blocks of snow. To make sure that the snow was strong enough to be cut into blocks and stacked, the Inuit tested it using a long probe made of antler. A snow house had a fireplace in the centre, surrounded by sleeping platforms. It also had a window to let in sunlight. The floor and living areas were covered with animal skins, making them warm and comfortable. Today, some Inuit still build and live in snow houses for a short time.



Figure 2

Snow Sleds

The best way to travel across ice and snow is to use a komatik [COME-uh-tick], or Inuit sled (**Figure 2**). A komatik could carry an entire household to better hunting and fishing grounds. Traditional komatiks were made of wood and hide, and were pulled by dogs. Modern komatiks are made of metal and plastic, and are pulled by snowmobiles.



Figure 3

Snowshoes

Have you ever tried to walk in deep snow? You probably did not get very far before you sank! Aboriginal peoples invented snowshoes, which allowed them to travel on top of the snow rather than through it (**Figure 3**). Snowshoes spread the wearer's weight over a large area so that the wearer does not sink into the snow. Snowshoes were originally made from bent pieces of wood, with crisscrossed pieces of animal hide. Today, many snowshoes are made using a metal frame.

Parkas

The Inuit understood the way that heat moves and designed their clothing to protect them from very cold temperatures. They made clothing from animal hides and fur. They wore parkas—tight-fitting, double-layered, hooded jackets—to prevent their body heat from escaping into the icy environment (Figure 4). Inuit garments were tight around the neck and waist to prevent heat loss, but were open at the bottom. This opening allowed moist air to escape and prevented the wearer from getting sweaty.



Figure 4

Sunglasses

The glare from the Sun, as it reflects on the snow, is very intense. Without protection, human eyes can be damaged, causing temporary “snow blindness.” Aboriginal peoples used a piece of bone with a small slit as sunglasses (Figure 5). Although low tech compared with the sunglasses used today, these sunglasses reduced the amount of light that entered the eye.



Figure 5

Oil Lamps

Aboriginal peoples of the Arctic have been making oil lamps out of soapstone for at least 2500 years (Figure 6). The oil lamp was usually one metre long. It burned oil from melting blubber and used a dried grass wick. The oil lamp had a huge impact on life in the Arctic because it provided light during the winter darkness. It also provided heat for soapstone cooking pots.



Figure 6

CHECK YOUR UNDERSTANDING

1. Why was the invention of the komatik important to the exploration of the Arctic?
2. How does wearing snowshoes prevent you from sinking into deep snow?
3. What extremes in the Arctic environment have the Inuit overcome with technology?