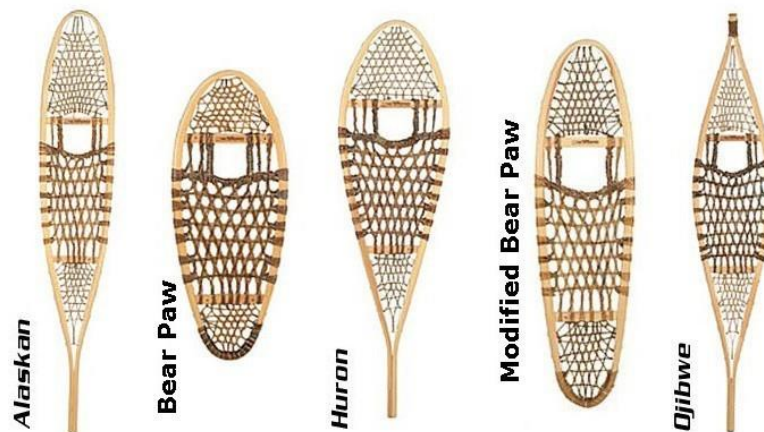




## Local Snowshoe Designs

Traditionally many Indigenous groups used snowshoes in the winter to walk through deep snow. There are various shapes and designs depending on a variety of factors including, the type of snow being traversed, the materials available, and the activities the snowshoes were being used for. The image below shows some different shapes of snowshoes.



Ojibwe snowshoes, or Aagam in Anishinaabemowin, are unique in shape. They are up to 5 feet long, creating a large surface area. They are often used for long journeys carrying heavy loads, for example hunting. According to the book *A Native American Thought of It: Amazing Inventions and Innovations* (2009) by Rocky Landon snowshoes made it easier to hunt animals such as buffalo, moose, or elk during the winter.

### General Snowshoe Design Features

- The tip is pointed up to avoid digging into snowbanks.
- The frame is typically made of white ash which is steamed or heated over a fire to make it pliable and easily shaped.
- There are also 2 cross pieces that help to strengthen the frame.
- The decking is made of woven rawhide (moose, deer, elk, caribou, or horse) and tied to the frame.
- A hexagonal weave is used to create the netting, and finally a piece of leather is used to create the bindings.
- When using snowshoes to do shorter, less deep walks around the community, a bear paw snowshoe is used because they are easier to be mobile. Snowshoes continued to be used today.



The Huron people who also originally lived on this land base developed their own style of snowshoe (see above). This style of snowshoe is used mostly for hunting, trapping, and long hikes in open forests and fields. It was the model preferred by the first French settlers that came to New France in 1604, and by coureurs des bois and trappers during their winter travels.

This style of snowshoe would be very quiet and easy to maneuver. It provides good flotation in soft snow. It's streamlined tail also makes it easy to move in a straight line.

Snowshoes are effective for walking in snow because the weight of the user is distributed across the large surface area, therefore, decreasing the amount of pressure on the snow so they do not sink in.

The relationship between pressure, surface area, and force is given below:

$$\text{Pressure (Pa)} = \frac{\text{Force (N)}}{\text{Area (m}^2\text{)}} = \text{Force N Area m}^2$$

To calculate the amount of force a person exerts on the ground, their mass can be multiplied by acceleration due to gravity ( $9.8 \text{ m/s}^2$ ).

$$\begin{aligned}\text{Weight (N)} &= \text{mass (kg)} \times 9.8 \text{ (ms}^2\text{)} \\ \text{Weight N} &= \text{mass kg} \times 9.8 \text{ ms}^2\end{aligned}$$

Due to the relationship between pressure, surface area, and force, snowshoes helped Indigenous groups to travel and hunt effectively in the winter even when carrying heavy loads!