

Explore January: Wintertime Snowshoeing

Discover the sport and history behind snowshoeing.

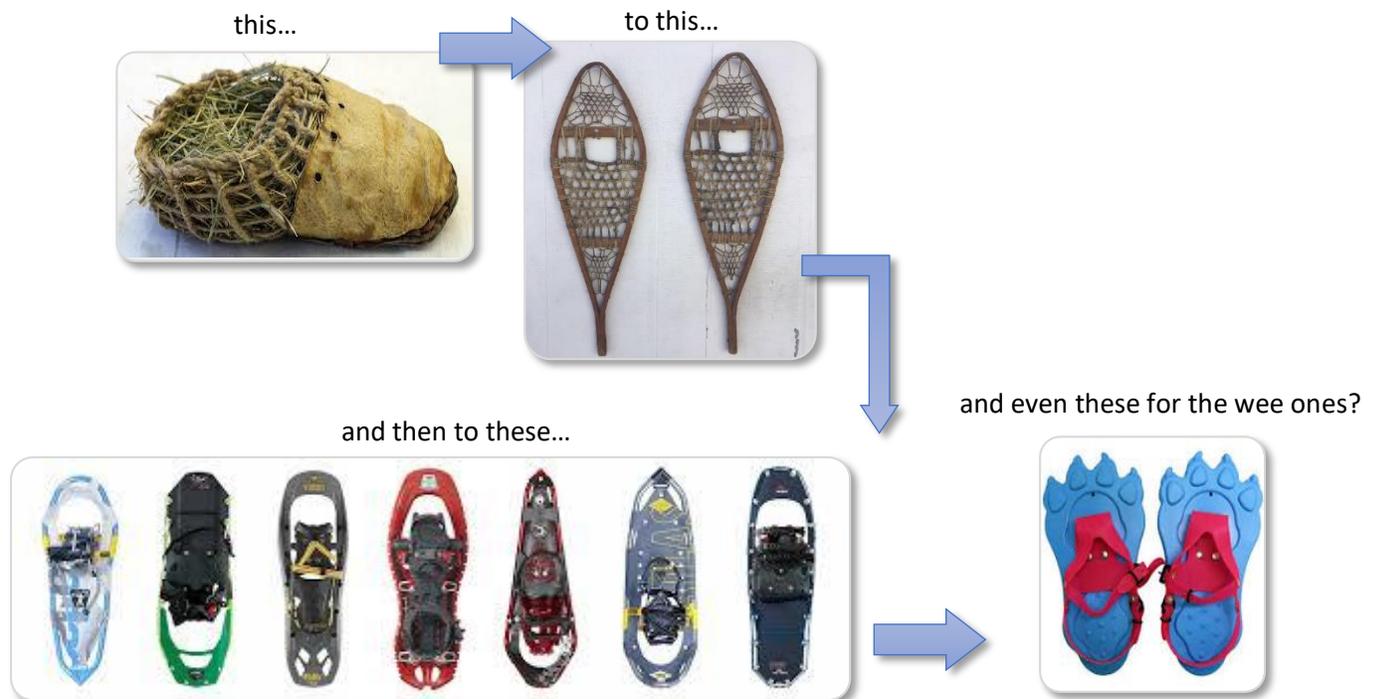
There is no better time to visit Duke Farms than when there is snow on the ground. The property is the definition of a winter wonderland after a good snowstorm. While some of the main trails get plowed for pedestrians and bikers, there are many other paths that are left untouched for snowshoers and cross-country skiers alike! So, the next time we get an accumulation, strap on those snowshoes and venture out to explore the property from a whole new perspective.



The Orchid Range after a snowstorm.

Snowshoeing is one of the oldest methods of travel and now a popular pastime. The evolution of the snowshoe begins in survival and is currently a growing recreational activity and competitive sport.

How did this transformation progress from...



Museum quality and preserved, used, or new, all snowshoes do have the same purpose. Snowshoes allow us to navigate through areas of snowfall where our boots would normally break through the ice crusted top layer or when the snow is too deep to move effectively. Drudging through the snow is exhausting and sometimes impossible; snowshoes allow us to move across the uppermost layer of the snow.

Nature's Adaptations

In nature, the animal that we commonly think of as being well adapted to traveling on top of the deep snow is the snowshoe hare. Their very large hind feet accommodate this action which becomes even more effective when they spread their slightly more elongated toes. Additionally, notice that there are no paw pads, and this fur covering protects them from winter's elements and provides 24/7 snowshoes.



A snowshoe hair. [Source](#).



Hind feet of the snowshoe hare from [thephotjournalist.com](#)

Human Travels

An article written in *Archeology*, a publication of the [Archaeological Institute of America](#) in 2016, announces the historical event where a snowshoe found in the South Tyrol-Italian Alps dates back to 3800 to 3700 B.C.



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BOLZANO, ITALY—[The Telegraph](#) reports that a snowshoe discovered on the Gurgler Eisjoch glacier at an altitude of about 10,000 feet has been dated to between 3800 and 3700 B.C. The snowshoe, made of birch wood, was found by cartographer Simone Bartolini of Italy's Military Geographical Institute in 2003 while he was mapping the border with Austria. Bartolini says that he thought the snowshoe might have been about 100 years old, but he recently realized that it could be much older and handed it over to archaeologists. The new date suggests that the snowshoe is about 500 years older than the frozen mummy known as Ötzi the Iceman, who was found in the same region about 25 years ago. Catrin Marzoli, director of the cultural heritage department for South Tyrol province, said at a press conference that the shoe is further evidence that well-equipped people were traveling through the Alps in the Neolithic period, perhaps hunting, fleeing enemies, or engaging in ritual activity. The snowshoe will eventually go on display at the South Tyrol Museum of Archaeology in Bolzano, where the Ötzi's remains are housed.



Ötzi recreated

Previously, the oldest snowshoe was believed to be from Ötzi, referred to as “The Iceman”. Discovered in 1991 by two German tourists while hiking in the Ötztal Alps, near the Italian-Austrian border these mummified human remains were in surprisingly well-kept condition and date back to about 5300 years ago.

The Romano-Germanic Central Museum in Mainz, Germany was charged with restoring Ötzi’s clothing. Following their recovery, it was important to catalogue the numerous leathers and hide fragments. The fragments were then preserved and pieced together.

The clothing was practical and functional. Ötzi’s clothing was made from hide, leather and braided grass, affording him protection from the cold and wet. This included his shoes, used in these icy and snowy conditions.

Restoration: According to the Museo Archeologico dell'Alto Adige



During excavations, Ötzi’s right shoe was found on his foot. This was removed for restoration. Only the netting of the left shoe survived. The shoes are made up of several layers. The inner shoe consists of string netting made from lime tree bast. Dry grass was stuffed under the netting for insulation. The outer shoe was made from deer hide and was stitched onto the sole like the netting. The sole was worn with the fur on the inside. The shoe was tied onto the foot with bast string. Experiments with reconstructed shoes have shown that they are warm and comfortable even on long treks. Although they are very warm they provide little protection from the wet, so presumably the wet grass was simply replaced.

The South Tyrol Museum of Archeology is a tremendous resource for learning more about this archeological treasure and fascinating research. [Click here](#) to learn more.

Snowshoes Today

Currently, one may find a variety of snowshoes. Traditional snowshoes are made of a strip of wood, usually of white ash, curved round, fastened together at the ends and supported in the middle by a light crossbar. This frame usually has a close webbing of dressed hide strips. More modern shoes, in addition to wood, may be made of aluminum, stainless steel, plastic, or technologically advanced composites. Recent advances have resulted in a lighter and more durable snowshoes. There are many individuals who prefer wooden frames due to the fact they do not freeze as quickly and are quieter as one moves through the snow.

Types of snowshoes and sizes

1. Aerobic/running: Small, light, not for backcountry
2. Recreational: Larger, for walks of 3-5 miles
3. Mountaineering: Largest for off trail, hill climbing, long distance

Rule of thumb: For every pound of weight, add one square inch of shoe surface. A heavier person (include your pack weight) requires more snowshoe surface area, which means a larger (longer) size, in order to have the right amount of “flotation”. Each snowshoe should list a recommended load. Some models come in one size; in which case you simply need to verify that your maximum load is below that one size’s maximum load.

There are also different bindings and straps and snowshoes that also match the conditions of the trails and the snow itself from deep powder to ice.

Accessories

1. Trekking poles – not all use poles, but they can add stability
2. Hiking boots – waterproof warm footwear.
3. Backpack – safety equipment, water, clothing, etc.
4. Gaiters – keep snow out of boots and add warmth.

How do you snowshoe?

The first step is literally taking the first step. One common issue is getting accustomed to the size of the snowshoe in relation to where your feet are positioned. Some snowshoes are wider than others, and a common challenge is not to plant the snowshoe on top of the other. There are many techniques for turning, taking strides, and ascending or descending a hill, but another important skill is being able to get up if you fall down!



Videos, lessons from skilled instructors and publications can provide strategies to get you started and help you enjoy your experiences. [Snowshoe Magazine](#) is one source to find information for beginners to those more advanced.

Why is snowshoeing increasing in popularity?

1. Snowshoes don’t wear out or get outdated; depending on usage a pair can last more than 10 years.
2. Least expensive winter sports hobby with new pairs starting at far less than \$100.
3. Can be used anywhere: parks, hiking trails, forests, and often ski resorts and even golf courses are now permitting snowshoeing. **Stay on the trails and respect the nature below.** Check specific sites for allowances before going.
4. A great family activity: snowshoes also come in children’s sizes.
5. The desire to get outdoors, keep safe distances from others and simply to get fresh air has never been greater. Some predict that recently there has been a 60% jump in snowshoeing.
Before heading out, research regional safety tips.

Snowshoeing tip examples:

- Take food and water. Snowshoeing burns a lot of calories and can lead to dehydration.
- Bring basic safety equipment in a daypack in case of an emergency, including a map, compass, headlamp, extra clothing, weatherproof fire-starter, and a space blanket. A GPS and cellphone are other options, but cold weather can quickly drain batteries.
- Wear layers of clothing that can be peeled off as needed to avoid overheating.
- Get an early start. Daylight doesn't last long in winter. A late start invites an encounter with darkness if something goes wrong.
- Leave an itinerary with someone trustworthy. This is a standard hiking and outdoor practice.
- Watch the weather. Blizzards can cause whiteouts that erase tracks and make route-finding difficult even on marked trails. Temperatures also can drop drastically during winter.
- Gaiters keep snow out of boots and add warmth.
- Dogs aren't equipped to handle all snow conditions. Some will flounder and wear out quickly in deep snow or snow with a breakable crust. Plan trip distance according to conditions and the dog's ability. Frequently check for ice buildup between the dog's toes. Bring dog booties and water. Check with your vet before assuming that your dog will "enjoy" it and if it is healthy for them to accompany you. Call ahead to make sure pets are permitted at the location. Many preserves and conservation areas do not allow pets as they may negatively impact wildlife and flora; respect the rules. For example, no pets are permitted in any areas of Duke Farms.



Krank and Scarlet explore a snow-covered pet friendly park in Colorado, while their human makes the trek on snowshoes.

Find more tips [here](#).

Take the next step...

There's plenty of time to start training for the upcoming snowshoe races sponsored by the United States Snowshoe Association.

[Click here](#) to view race highlights from the February 2020 championship event from Colorado Mountain College, Leadville, Colorado and to hear about the course and the participants' experiences. If you're interested in trying out snowshoeing, you can search through local listings in your area for used but well-maintained snowshoes like these!

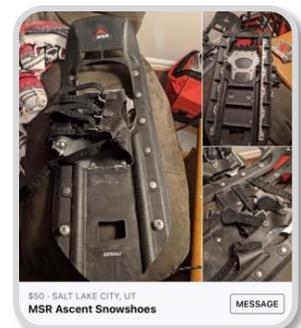


Photo source: Mike Reilly

Interdisciplinary Extensions

Many content areas connect to the topic of snowshoeing. Consider the following:

Geography and Mathematics Ideas

Before visiting, check out the [Duke Farms Map](#) to identify some of the unpaved trails. How many surfaces are listed in the Map Legend and why is it important to know?

Using the Map Scale, determine the approximate length of these paths:

- Orchid Range Meadow Loop
- Railroad Lane
- Turtle Lane Path

Select other Mown or Woodchip Pathways to determine their total distances.

Investigate methodologies that can be used to more accurately measure distances on maps. How can string, paper or other materials be used? [National Geographic](#) has resources and lesson plans.

Social Studies, Language Arts, Geography

[Snowshoe Thomas](#) responded to an ad in the *Sacramento Union* declaring, “People Lost in the World; Uncle Sam Needs a Mail Carrier.” Between 1856 and 1876 he made 90-mile treks to deliver mail to those living in isolated conditions. Student research can be enhanced through primary source materials, writing assignments and various forms of retells.

Health and Physical Education

Snowshoeing aligns to the NJ Health and Physical Education Strands of fitness and life-long wellness: cardiovascular endurance, muscular strength and muscular endurance. Additionally, the area of emotional wellness is widely connected with outdoor activities of all kinds.

Physical Science and Engineering

Investigate the designs of snowshoes and their relationship to efficiency. How do shapes and materials influence their performance? How would you innovate snowshoes for a specific condition? How would you scientifically test your model?

Mathematics

Determine the necessary size of snowshoes to keep a person “afloat”. Include the person’s weight and pack weight. Keep the person’s weight constant and using intervals of 5 pounds of portage, increase the total weight to determine how this impacts snowshoe dimensions.

Natural Sciences

Viewing the natural world using snowshoes may change your access to nature or advance your observations. How do you think snowshoeing might influence your discoveries?

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