



How Do Wolves Keep Warm?

By Laura MacDonald and Morgan Roppe

During winter, humans put on coats, hats, mittens and boots to go outdoors.

Do wolves wear hats? No! But they have **adaptations** that help them stay warm outside in the snow.

Adaptations are physical traits that have evolved to keep an animal alive. Wolves have very thick fur that keeps them warm all **winter**.

The wolf's fur, or **pelage**, has two **layers**. The **guard hairs** grow up to four inches long, and protect the wolves from rain, wind and **snow**. The **undercoat**, beneath the guard hairs, grows thick and soft in the fall to trap air and insulate the wolf from cold weather. These layers are so warm that wolves can tolerate temperatures far below zero. Snow doesn't even melt when it falls on wolves' fur. In spring, the wooly inner layer is **shed** to keep the wolf cool during the summer. It comes out in clumps and often gets stuck on branches or bushes as wolves brush against them.

Wolves also use behaviors to keep warm. They curl up by themselves or near other wolves to keep warm. You can see examples in the pictures of Boltz, Axel and Denali.



Word Find

Use the Word Bank below to find as many words as possible in the Word Find puzzle. Words can run horizontally, vertically or diagonally.

S	D	P	X	W	D	W	N	I	N
P	R	E	E	O	M	I	O	C	D
W	E	I	H	N	A	N	I	X	P
C	Q	L	A	S	F	T	T	H	J
H	H	H	A	H	V	E	A	P	F
G	G	W	D	G	D	R	T	H	Q
E	C	K	T	Q	E	R	P	N	W
U	N	D	E	R	C	O	A	T	J
S	R	E	Y	A	L	F	D	U	Q
Y	A	Q	O	D	A	H	A	Y	G

Guard Hairs
Undercoat
Pelage
Shed
Adaptation
Snow
Winter
Layers



Hunting Prey

Wolves hunt many different kinds of prey such as ungulates, rodents and rabbits.

Ungulates are large animals with hooves, such as deer and moose. Working together in a pack, wolves can kill a deer or even a big moose, even though these animals are much larger than they are. The smaller prey, such as beavers and rabbits, are easier for one wolf to hunt by itself, but the wolves need more of these prey animals to feed the pack.

Wolves in Minnesota eat mostly white-tailed deer. Deer eat plants, which makes them **herbivores**. Wolves eat meat, so they are **carnivores**.

A wolf has a great sense of smell, and can smell its prey from more than one mile away! Once they find the prey, wolves use their strong teeth to pull their prey to the ground. Deer can defend themselves from the wolves—they can kick with their hooves, and the males have antlers on their heads that can hurt or kill a wolf.

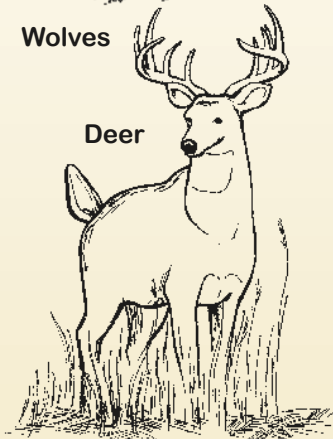
In the winter, deer have a more difficult time avoiding wolves. Their thin legs and sharp hooves sink down in the snow, making it harder to run. Wolves, however, have an easier time hunting in the winter. They have very big feet, which act like snowshoes and help the wolves walk and run on the snow. A pack of wolves walks in a single-file line so the snow packs down, and wolves in the back don't use up as much energy walking through soft, fluffy snow. ■

Match the Characteristics

Draw a line connecting the animal to its characteristics.



Wolves



Deer

Antlers

Large Paws

Hooves

Herbivore

Strong Teeth

Great Sense of Smell

Carnivore

Pack

Ungulate