

# Each and Every Hair

Quick question: what do a skunk's stripes, a sheep's wool, a walrus's whiskers, and a porcupine's quills all have in common? Answer: They're all hair!

Hair makes the porcupine prickly, the muskox fluffy, and the water shrew a fantastic swimmer. And God designed each and every one!

## All about Hair

Hair is made of something called **keratin**, just like claws, feathers, and your fingernails. An animal's outer coat is made up of **guard hairs**. These show the color and pattern of the animal. Underneath the guard hairs is the **underfur**. This fur is very soft and fluffy and helps keep the animal warm. **Whiskers** and **quills** are hair too. They are both special types of guard hairs created to do specific jobs.



hare



no hair



mohair



## Why Do Animals Have Hair?

**For protection.** The porcupine's quills criss-cross its back in all directions. It can't shoot the quills out, but if a predator gets too close the porcupine will lash out with its quill-covered tail.

**For camouflage.** In the fall, the snowshoe hare loses its brown summer coat and grows a white winter coat, making it hard to spot against a snowy background.

**For communication.** The white-tailed deer flashes the bright white underside of its tail to signal to other deer that there's danger and say, "This way! Follow me to safety!"

**For insulation.** The muskox stays warm during cold arctic winters with its long overcoat (with hairs up to 24 inches or 60 centimetres long!) and its woolly undercoat, which it grows in the fall and sheds in the spring.

**For finding food.** The bearded seal uses its super-sensitive whiskers to find food on the sea floor.

**For warning!** The skunk's bold black and white stripes say, "Stay away if you know what's good for you!"



ILLUSTRATION BY SCOTT HOLLADAY



# FUN Facts

Not all **red foxes** are red! They can also be coyote-colored, "silver" with mostly black silver-tipped hairs, or a "cross fox" with darker hair along the back and across the shoulders.

A **caribou's** nose is completely furred.

A **baby porcupine** (porcupette) has soft quills that harden shortly after it is born.

Stiff hairs around the edge of the **water shrew's** hind feet actually work like flippers, helping it swim!

**Moles** have hair that can lie in any direction, allowing moles to easily move forward or backward inside their narrow tunnels.

When a **weasel** gets its winter coat, the white fur shows up first on its belly and then spreads toward its back. The opposite happens in the springtime—the brown summer fur appears on its back and spreads toward the belly.



## By the Numbers

- **Walruses** have up to 700 whiskers.
- **Porcupines** have about 30,000 quills.
- **Sea otters** have up to 140,000 hairs per square centimeter (less than a half-inch) of skin.
- **Humans** have up to 150,000 hairs on their heads.

With all the animals and people on this planet, that's a lot of hair! Yet Jesus says, "Even the very hairs of your head are all numbered" (Matthew 10:30). What an awesome God we have!



**Rachel Lancashire** grew up in the CRC but currently attends Gilmour Memorial Baptist Church in Selwyn, Ont. She once had a job identifying wildlife hair samples using a microscope.

## Cozy Socks and Sweaters

Circle all the animals below that you think people collect hair from to use as fiber for spinning into yarn. When you're done, read on to check your answers.

**SHEEP DOG BISON MUSKOX CAMEL  
GOAT RABBIT ALPACA YAK COW LLAMA**

If you circled sheep, you're right! Sheep wool was one of the earliest fibers to be spun and woven into cloth. Today people raise lots of different kinds of sheep with different types of wool. But people also use hair fibers from many other animals.

Cashmere and mohair come from goats. Cashmere is very soft and fine. Mohair has a silky shine and is nicknamed the "diamond fiber."

Angora comes from Angora rabbits. The hair on these long-haired rabbits is collected when the rabbit sheds every three to four months and is very soft, light, and warm.

Qiviut is the underwool of the muskox and it's eight times warmer than sheep's wool. It is shed in the spring and collected by combing or gently pulling it off farmed animals, or retrieving the puffs of hair shed by wild muskoxen.

People also spin yarn using hair from camels, bison, yaks, alpacas, llamas, and even long-haired cows (like Highland cattle) and dogs!

You can find lots of fun yarn craft ideas online. Here are a couple to check out:

- Needle-felted acorns (you'll need an adult to help with these) ([tinyurl.com/feltdacorns](http://tinyurl.com/feltdacorns))
- How to Finger Crochet a Scarf ([tinyurl.com/FingerScarf](http://tinyurl.com/FingerScarf))

## Hair Has "Fingerprints"

Did you know that? It's true! The outer surface of a hair is made up of overlapping layers of scales. The pattern made by the scales is different on different types of hair. You can make an impression of the scale pattern by pressing a hair into wet nail polish or hairspray on a microscope slide. When it's dry, you peel off the hair, and that leaves a print. When you look at the "hairprint" under a microscope, the scale pattern tells you what animal the hair came from.

With a parent's permission, visit the website [micro-labgallery.com/hair.aspx](http://micro-labgallery.com/hair.aspx) to see what different kinds of hair looks like under a microscope.

