

### **How does fur help keep Arctic animals warm?**

There are three main reasons why fur helps keep Arctic animals warm. First, the animals have a thick layer of fur that acts like an extra coat over the body. Second, the hairs of the fur are hollow and able to trap air. Air is a good insulator. It absorbs heat from the body and does not let it escape easily. Third, the fur is coated in oil which helps to keep moisture out and heat in. When fur is dry, it stays warmer.

Polar bears have an extra gift from God. Underneath their fur is black skin. Did you know that the color black absorbs all kinds of light energy? When the light energy is absorbed, it changes into heat energy. The polar bear's black layer is able to absorb even more heat from the body and the sun than pink or white skin could.

### **What are warm-blooded animals, and how do they survive in the Arctic environment?**

Mammals are warm-blooded animals. Birds are warm-blooded, too. That means their bodies make their own heat, even when it is cold outside. They are able to keep their temperature at a steady level, no matter what the temperature is around their bodies. The body temperature will stay the same whether it's cold or hot outside. The animals will shiver and do other activities that increase their use of energy to stay warm.

It requires a lot of energy to keep body temperature steady, but God provides just what they need to survive.

### **Can you name birds that live in the Arctic?**

Arctic terns, bald eagles, Canada geese, ptarmigans, puffins, snowy owls, snow geese

### **Do all Arctic animals hibernate?**

When animals hibernate in a deep sleep, they do this to save energy during the bitter cold months. This is especially helpful because there is not enough food available. Some animals hibernate for a few days. Others hibernate for several weeks or months. It depends on the kind of animal, the condition of the animal's body (age, health), and the weather.

During hibernation, the animals are not active. They lower their body temperature, slow down their breathing and heart rate, and slow down their metabolism using food and energy. Before animals hibernate, they will store energy in their body in fat. There is a special kind of fat called "brown fat" that forms around the brain, heart, and lungs. It helps to give quick energy to the animals when they wake up. Amazingly, Arctic ground squirrels are the only Arctic animals God has created that truly hibernate for a long time!

### **Can you name mammals that live in the Arctic?**

Musk oxen, caribou, snowshoe hares, Arctic wolves, polar bears, Arctic ground squirrels, Arctic foxes, moose, ermines, lemmings, sea otters, wolverines, narwhals, walruses, seals, whales