Staying Warm in Cold Weather

1. When the weather outside is frightful, we humans have ways to keep warm. But what about all the animals out there? Won’t they freeze? In fact, wildlife can get too cold. They can lose limbs. They can even die.

Animals Know When It Is Time To Warm Up

2. In order to protect itself, an animal must be able to feel the cold. For humans, cold may feel like pins and needles in our fingers and toes. Animal species have their own ways of knowing that it’s time to warm up.

3. There are different ways for warm-blooded animals and cold-blooded animals to keep warm. A warm-blooded mouse will start to feel cold at a warmer temperature than a cold-blooded frog. Mammals that hibernate, or sleep, in winter sense cold differently than other mammals. The temperature has to be lower before they feel the cold.

How Cold Is Too Cold?

4. Torpor helps smaller animals save energy. Animals like bats, rodents and songbirds lose heat faster. That’s because the surface of their body is large compared to their size. To keep their body temperature normal, they must use more energy than a larger animal.

5. Species in the far north, where it is much colder, tend to be larger. Their arms, legs and tails tend to be smaller than similar animals in warmer places. Animals may live in groups like herds or dens to help keep each other warm. They may burrow underground or nest in cavities such as hollow trees or caves.
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Some animals have changes in their bodies when they sense winter coming. They may develop extra fat or grow thicker fur. They may even trap a layer of air beneath their fur or feathers. The air acts as insulation, like the lining in a winter coat.

Heat Exchange

Have you ever wondered how geese can stand on ice or squirrels in snow in their bare feet? The secret is in the way their blood flows. They have their own built-in heating and cooling system in their feet, which allows the core of the body to remain warm. This system is used by many birds and mammals.

*Secret Weapon*

How come fish do not freeze in icy waters? Luckily for fish, ice floats. That allows fish to swim freely in the not-quite-freezing water below the solid surface. Also, fish may not sense cold the way other animals do. Some fish even have special “antifreeze proteins” that bind to ice crystals in their blood and keep them from freezing.

Another secret weapon in mammals and birds is brown adipose tissue, or “brown fat.” This fat can release energy as heat. It is more efficient than shivering, because shivering uses muscle contractions as a way to heat up.

Migration is also an option for beating the cold, but moving someplace warmer uses a lot of energy for wildlife.

We may never know if animals dread winter. But wildlife do have ways to make sure they live to see another spring.
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1- Why did the author write this passage? (e.g., to persuade, inform, entertain)

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2- How does migration affect animals in cold weather?

______________________________________________

3- What does the word “burrow” mean?

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4- Name three ways that animals do to stay warm in cold weather.

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5- What is the relationship between an animal’s size and how it uses energy to keep warm?

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Puffins

1 There are various species of birds in the world, but there is one that is a little different from the rest. It is called a puffin.

2 Puffins are birds that only weigh up to about two pounds or less, and they are mostly black and white. Many say that they look a lot like penguins, because they have a colorful bill. They are sometimes called clowns of the sea or sea parrots, because their bills look similar to the beak of a parrot. Its bill, or beak, changes color during the year. Its beak is flat and shaped like a triangle. Puffin beaks have a gray color during the winter, and they become a bright orange when it is warmer.

3 The wings and tail of the puffin are very short, but they flap their wings up to four hundred times per minute. They are expert fliers. They can travel up to fifty-five miles per hour. They have winged feet like a duck. They can dive into water that is up to sixty meters deep. Puffins are also expert swimmers. When they swim in the water, they look as if they are flying as they glide through the water. They can stay in the water for up to two minutes.

4 Puffins make their burrows on the grassy clifftops. They dig into the soil using their beaks and feet. Once a burrow is ready, a female prepares a bed of feathers. There, she lays a single egg. Male and female puffins care for their young together. They share the job of keeping the egg warm. Once it hatches, they take turns bringing food for the young chick. These birds can live to up to thirty years. Some puffins will have the same mate for up to twenty years.

5 There are four types of puffins. They all live in different parts of the world. The Atlantic puffin lives in the colder areas such as Europe, Iceland, Canada, and Maine. Most of the world’s Atlantic puffins breed in Iceland. Birdwatchers visit that northern island to go puffin-spotting.

How fast can puffins fly?
How long can puffins live?
How do puffins get their food?
Where do Atlantic puffins live?
Where do puffins live?
Puffins

1- What is the author’s purpose for writing this article? (e.g., to persuade, inform, entertain)

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2- What is the main idea of this text?

__________________________________________________________________________

3- How are puffins similar to penguins?

__________________________________________________________________________

4- How are puffins similar to ducks?

__________________________________________________________________________

5- Why do you think puffins are called the clowns of the sea?

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