

Woohoo for Gentoos!

Have you ever seen a tree branch coated in ice? Or icicles hanging from the roof of a house? Ice makes everything sparkly. It looks pretty. But it's dangerous too.

When ice coats planes, they cannot take off. When ice covers power lines, people are left without light and heat. They can't cook their food or keep it cold.

Scientists are always looking for ways to fix the problem of icing. They have invented coverings for power lines and chemicals that remove ice from planes. But the coverings don't last very long. And the chemicals are bad for the environment.

Researchers in Canada were looking for a better answer. They wanted to use solutions found in nature. First they tried a lotus leaf. In the wild, the lotus leaf sheds water. It cleans itself. But when it is cold, the leaf's design doesn't work very well.

So the researchers looked for other models from nature. They tried to find a model that thrives in the cold. They went to the Montreal zoo and found Gentoo penguins.

Gentoo penguins have unique feathers. They shed water easily. They have barbs that stop ice from sticking to them.



The scientists used the feathers as a model for a new type of power line covering. They created a fabric using lasers. They tested the fabric and it was 95 percent better at keeping the ice from sticking. The penguin idea had worked!

The researchers hope to use their penguin fabric on wires and planes. They will look for ways to use it on other surfaces that freeze. Thanks to penguins, ice storms may now be less dangerous. Woohoo for Gentoos!



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NAME: _____ DATE: _____

1. What can happen when ice covers the power lines?
 - a. People have no heat
 - b. People can't cook their food
 - c. People have no light
 - d. All of the above

2. What nature model did the scientists try first?
 - a. Gentoo penguins
 - b. Lotus Leaf
 - c. Chemicals
 - d. Polar bears

3. What does it mean to "thrive in the cold"?
 - a. Do well in the cold
 - b. Not work in the cold
 - c. Sing in the cold
 - d. Hide from the cold

4. Why did researchers try to find a model that thrives in the cold?
 - a. Because it would have barbs to keep the ice off
 - b. Because it would be easier to find
 - c. Because it would be naturally good at dealing with ice
 - d. Because it would be the only thing good at shedding water

Instructions for teachers:

These questions can be used to assess understanding of the reading passage.

The item in bold is the correct answer for each question.

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