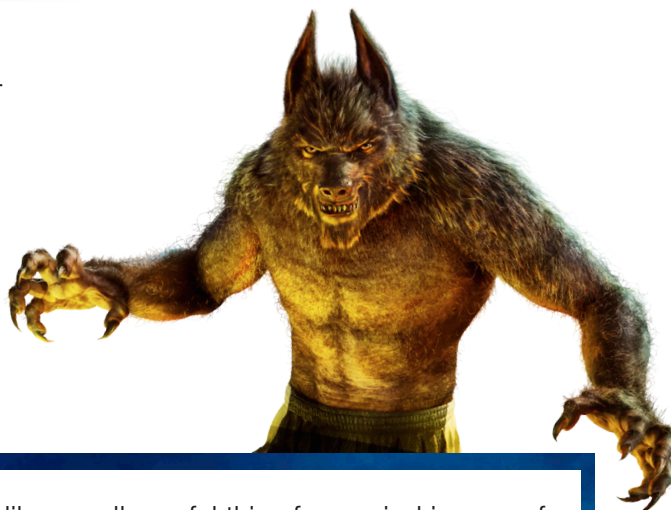


NAME _____

The Science of Goosebumps

Have you ever had goosebumps? It's when your hair stands on end and your skin looks like a chicken without any feathers. Have you ever wondered *why* we get them? Think like a scientist and let's find out!



When we become chilled, excited, or frightened, our bodies produce a hormone called adrenaline. It makes our heart beat faster, prepares our lungs to take in more oxygen, and causes our pupils to dilate. It also causes tiny muscles beneath our skin to contract, tugging at the roots of the hairs that cover our bodies. This is when our hair stands on end and gives us "goosebumps."

Scientists believe that our bodies react to fear and excitement in this way as a means of survival. Back many thousands of years, if a human heard a strange sound in the forest or was afraid of an attack by an animal, adrenaline would prepare the human body to run from danger or to stay put and defend itself.

Having bumps on your skin doesn't seem

like a really useful thing for survival in case of cold or an attack. But scientists believe that a very long time ago, when the human body was covered in a thicker coat of hair, having a "hair-raising experience" served two main purposes. First, your puffed-up hair could trap a layer of air next to your skin, which would insulate you against the cold. Second, having all of your hair stand up would give you the appearance of being larger and scarier in case of an attack!

Because humans aren't covered in hair like they used to be, goosebumps don't seem to have a purpose, other than to signal to us that we're chilly, excited, or creeped out. But you may have seen goosebumps plus a coat of fur in action if you've ever seen a dog's fur bristling when it hears a strange noise, or a cat that puffed up after being startled!



"Hair-Raising" Questions

On the back of this paper, answer the following:

1. What causes goosebumps to form?
2. Explain two reasons scientists believe humans get goosebumps.
3. Have *you* ever had goosebumps? If so, what do you think caused yours?