



Curiosity Guide #404

Central Nervous System

Accompanies Curious Crew, Season 4, Episode 4 (#404)

Icy Reflex

Investigation #5

Description

This is a cold little trick!

Materials

- Ice cube
- A friend

Procedure

1. Make sure your friend is not near anything that could hurt him or her.
2. Hide an ice cube in your hand.
3. Carefully touch the back of your friend's neck with an ice cube.
4. How did your friend react?

My Results

Explanation

The nerve endings in your friend's skin immediately sense the ice cube. These nerve endings can detect pressure, pain, and temperature changes. The cold temperature sends a quick signal on the sensory nerve to the spinal cord, which fires a motor nerve and makes the person move. This reflex is called the withdrawal reflex and helps to keep a person safe. It is called a reflex because the body responds without thinking about it.

Think about this: Our skin has nerve endings that can carry information back to our spinal cord and then our brains. Those nerve endings can detect temperature changes, like when you touch a hot stove; pain, like when stepping on an acorn; or pressure, when someone touches your hand. Sometimes our bodies move before we even think about it, and that quick movement without thought is called a reflex. The heat, pain, or pressure is felt by the sensory nerve, and a message begins to travel to the spinal cord, where it immediately loops back on a motor nerve and causes you to pull your hand away. Your reflex happens before you can even think about it. You gotta love good reflexes!

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