



Snotty Nose

How does snot protect your lungs?

Description

Our bodies produce snot, or mucus, that we blow from our noses. Why do our bodies make snot? Model how snot works and learn how it helps keep your body healthy.

Age Level: 10 and up



How does snot protect your lungs?

Materials

- Small broom or dust brush
- Large pan or bowl
- Approximately 250 mL (1 cup) of sand
- 2 gelatin packets
- Mixing bowl
- Spoon
- 125 mL ($\frac{1}{2}$ cup) of hot water
- 25 mL ($\frac{1}{4}$ cup) of corn syrup
- Green or yellow food coloring (optional)

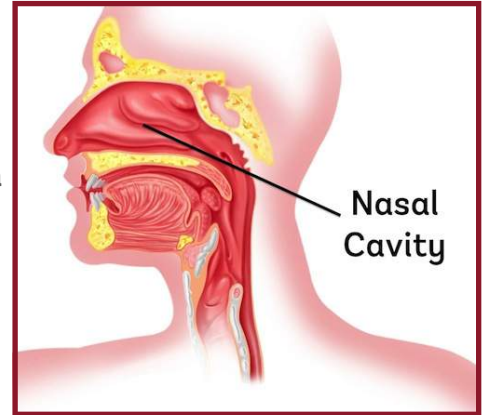


Time

Preparation: 10 min
Activity: 20 min
Cleanup: 15 min

Step 1

The air you breathe can have dust, pollen, germs, pollution, and other things in it. You don't want these things getting into your lungs! To protect your lungs, the inside of your nose and nasal cavity (the area between your nose and throat) is filled with tiny hairs called cilia. You will use a small broom or dust brush to model how the tiny hairs trap particles from the air so they can't reach your lungs.



Step 2

Hold the broom or brush above a large pan or bowl. Pour about 125 mL ($\frac{1}{2}$ cup) of sand over the bristles. This is like breathing in dust. Did most of the sand go through the bristles? Did the bristles catch any of the sand?



Step 3

Now add simulated snot to the bristles. Real snot is made of water, protein, sugar, and an enzyme called lysozyme. You can represent the protein in snot by combining two gelatin packets, and 125 mL ($\frac{1}{4}$ cup) of hot water. Mix thoroughly until the gelatin is dissolved.



Step 4

Add 125 mL ($\frac{1}{4}$ cup) of corn syrup to the gelatin mixture, until the “snot” is thick like mucus. The corn syrup represents the sugars in snot. If you want, add a few drops of green or yellow food coloring to make the mixture look more like real mucus.



Step 5

Spoon the simulated snot onto the bristles, covering them completely.



Step 6

Pour the rest of the sand over the “snotty” bristles. This is like dusty air moving past snot-covered nose hairs. What do you notice? Does more or less sand filter through the bristles when they’re coated with mucus?



What's Going on?

The broom bristles acted like the hairs in your nose and nasal cavity. There are also smaller hairs in your nose called cilia. These can trap some dust, pollen, and other small particles that enter through your nose when you breathe in. When you poured sand over the bristles, some sand was trapped but not all of it.

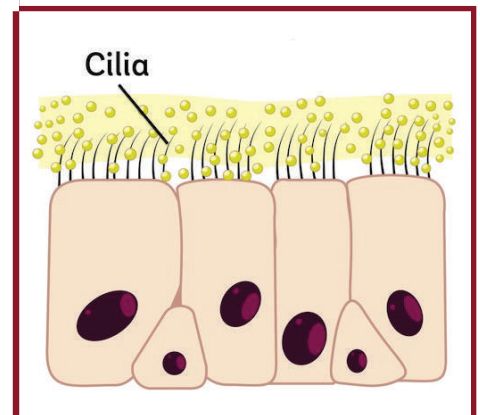
Mucus or snot in your nose and nasal cavity is a thick, slippery substance. It helps trap unwanted things so they won't enter your lungs. When you put fake snot on the bristles, they trapped a lot more sand than plain bristles. In your body, cilia move dirty snot down your throat so you can swallow it. Fresh, new mucus then replaces what you swallowed.



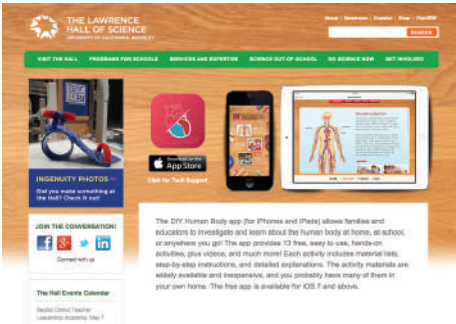
Mucus Keeps You Healthy

Mucus in your nose plays an important part in protecting your lungs. This mucus helps keep your lungs free of bacteria, viruses, dust and other things that could make you sick or affect how you breathe.

When you get sick, like catching a cold, your body can produce more mucus to help flush the germs out of your nose and sinuses. When your body's immune system fights these germs, your mucus can turn white, yellow, or even green. Your body makes mucus whether you're sick or healthy. A healthy person produces about 1 liter of mucus every day.



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Credits



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THE LAWRENCE
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This activity from the DIY Human Body app allows families to investigate and learn about the human body at home or on the go! The app features thirteen hands-on investigations, as well as images & videos.

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