

Sense of Smell

From Duval Reads

Everybody take a deep breath.

Every time you inhale, or breathe in, a lot more than air goes up your nose. Along with air, thousands of tiny little molecules, small pieces of things too small to see, enter your nose each time you breathe. They're called odor molecules, and together they make up what we call scents. When the man in this picture inhales, the odor molecules travel up his nose, and then he smells the scent of coffee.

Molecules are microscopic—so small that you can't see them without a microscope—but they are floating around in the air all the time. There are millions of odor molecules in the air, especially hovering around everything that has a scent. The inside of your nose is like a big, damp cave, designed to catch and keep odor molecules.

When you sniff a flower, odor molecules rush in through your nostrils, the two openings in your nose, and travel high up inside your nose until they reach smell receptors. The smell receptors tell your brain about the molecules you just sniffed, and your brain sends a message back to tell you, "That's a sweet-smelling flower."

People can identify a huge number of different kinds of smells and odors—between four thousand and ten thousand! This is because we can tell the difference between that many different odor molecules.

We're lucky to be able to smell so many odors, even though sometimes they smell bad. Some animals, like dogs, have an even better sense of smell than humans. How many of you have a dog at home? Dogs have twenty-five times more smell receptors than humans!

Dogs have to sniff really hard to get the odor molecules all the way up their nose to meet their smell receptors. If you've ever seen a dog walking with its nose to the ground, you may even be able to hear it sniff. People sniff, too, especially when they want to figure out where a smell is coming from or what a smell means. Can everybody inhale and sniff?

If you had trouble sniffing just now, then maybe it is because your nose is stuffed up. When you have a stuffy nose, it means that your nostrils are full of mucus. You always have mucus in your nose and other parts of your head, but when you're sick with a cold or have allergies, your body makes even more mucus.

Mucus is very important; it traps dirt that might be floating around in the air you breathe and keeps it from going further into your body. If you are sick, the extra mucus can stuff up your nose or cause it to run. When there is extra mucus in your nose, it is hard for odor molecules to travel high enough into your nose to reach the smell receptors. The odor molecules are blocked,

or stopped, by the mucus. That means that when your nose is stuffed up with a cold, you can't smell as well as when you're healthy. And when that happens, it's time to grab a tissue and blow your nose!

Your sense of smell can help protect you. For instance, if smoke molecules travel through your nostrils to your smell receptors, your brain will know there's a fire somewhere, and you will know that you need to get away from the fire. Even if you are not sure you smell smoke—you only think you do—it is better to leave the area and have an adult check to see if there is a fire. Better safe than sorry!

But your sense of smell doesn't only tell you about bad things or dangers. It can be a lot of fun to sniff, because many things smell great. Have you ever smelled chocolate chip cookies baking in the oven, or buttery popcorn at a movie theater? Next time you're enjoying your favorite scent, try to remember that odor molecules are hitting your smell receptors and telling your brain, "Wow, that smells great!"