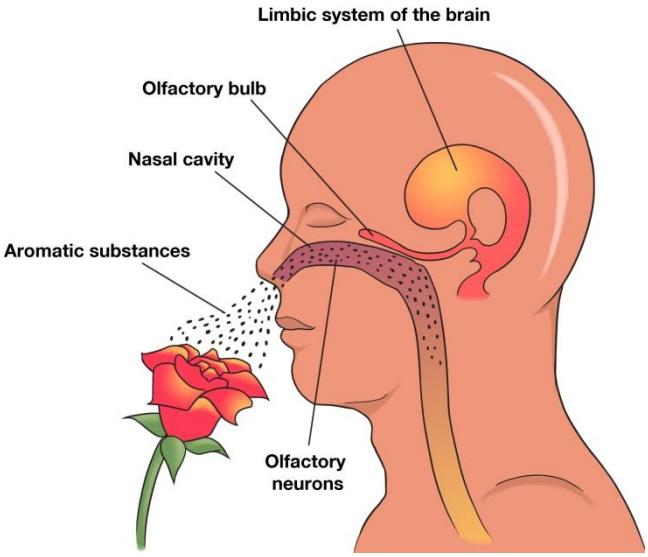
What's That Smell?

Try It Out

Flip open the lid on each of the spice bottles and sniff. Take a guess as to what is in the container. (The answers are on the bottom.)

What's the Big Deal?

The sense of smell is a very complicated and underappreciated process. It is sometimes our first warning sign of danger, such as when there is a fire. Smell is also very closely linked to memory and emotion. Particular smells often evoke memories, and our noses are even helpful in finding a mate. Some scientists think the tradition of kissing originally developed from *sniffing*.



Olfactory system (Image: perceptionsense.com)

Women in Science

Linda Buck is known for her research into the sense of smell. With Richard Axel, she received the Nobel Prize for discovering odorant receptors and for organizing the olfactory system.

Linda Buck in 2015 (Royal Society)

Through years of research, Buck discovered that each cell in our nose capable of "smelling" something can only detect a certain number of substances. She found a set of genes that code for the individual proteins that drive these *receptors*. Each protein changes when a particular odor attaches to the receptor and sends an electrical signal to the brain.

On the brain side of things, Buck discovered the olfactory bulb, which processes the electrical signals and is almost identical across all people.

Think about *that* the next time you smell something cooking!

Wonder While You Walk...

Do pieces of a substance actually go up your nose when you smell that substance? Do substances go up your nose that you *can't* smell? Why can you smell some things but not others?