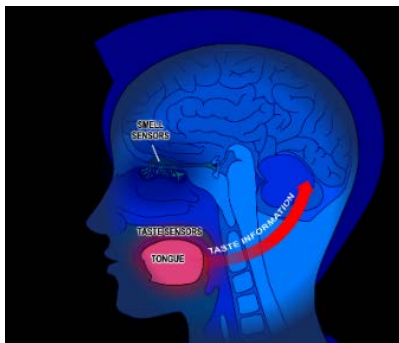
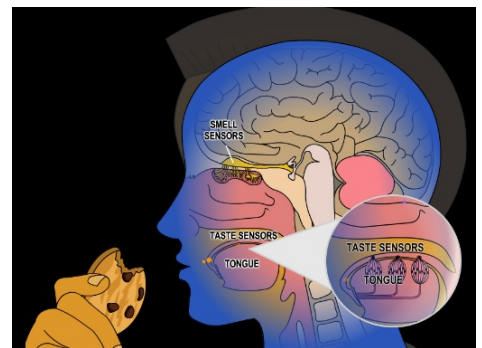


### The Flavor Makers

When you eat or drink, the flavor that you sense is a combination of what happens in your mouth and your nose, and believe it or not, your brain!

### Good Sense and Good Taste

When you eat something, molecules from the food dissolve in your mouth and enter structures on your tongue called "taste buds". In the taste buds, the molecules interact with tiny taste receptor cells which are connected to nerves.

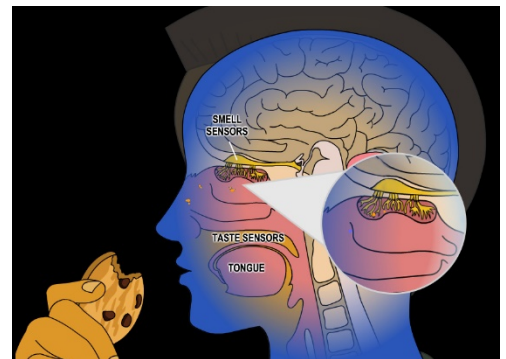


### A Tasty Transmission

The taste receptor cells send signals through the nerves to your brain which interprets the signals as a sweet, sour, bitter, salty, or savory taste or some combination of these.

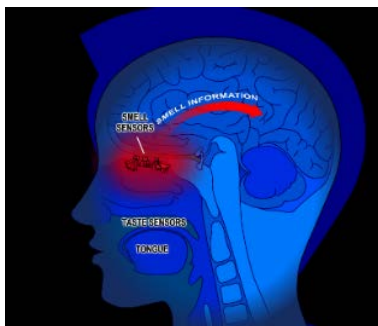
### A Smelly Stimulus

The nose also plays a big part in what we sense as flavor. Molecules from the food we eat enter the back of the nose and interact with odor receptors



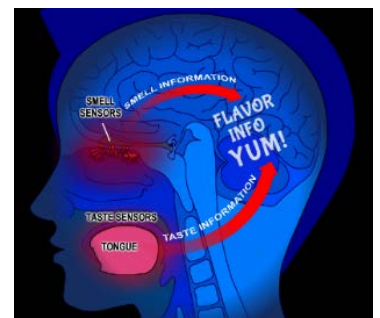
### The Odor Decoder

The smell receptors in the nose send nerve signals to the brain which interprets the signals as a certain odor.



### Savor the Flavor!

Your brain combines taste signals from the tongue and odor signals from the nose and interprets them as the flavor of whatever you are eating or drinking.



## More Cool Chemistry – Smell and Taste

Not everything smells with a nose or tastes with a tongue.

### A snake smells with its tongue.

A snake uses its forked tongue to pick up scent molecules from the air. When it brings its tongue back in, the molecules contact special receptors and the snake senses the molecules as a smell.



### A fly tastes with its feet.

At the end of a fly's legs is a foot-like structure with special hairs on it. The hairs have receptors that sense the molecules the fly steps on. So a fly tastes with its feet!



### An octopus tastes with its legs – all eight of them!

If you count the suckers on all 8 legs of an octopus, there can be almost 2,000 of them. Each sucker has many receptors that detect molecules in the water. The receptors send signals to the octopus's brain about the molecules. That's how an octopus tastes with its legs!

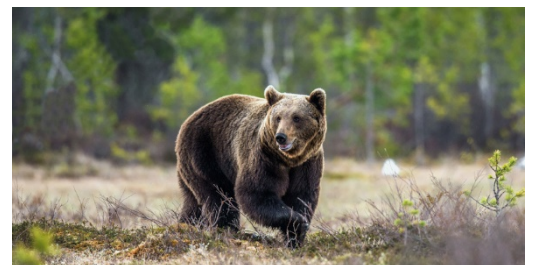


## World's Best Sniffers



**Elephant** - An elephant can smell a source of water from about 12 miles away.

**Bear** – If the wind is blowing in the right direction, a bear can smell a dead animal from 20 miles away.



**Bloodhound** – Bloodhounds have such a great sense of smell, they can stay on the trail of a scent through crowded streets or shopping centers. They have been known to stay on a scent for over 100 miles!



**Moth** – The male Luna moth can detect the scent of a female Luna moth from over 6 miles away.