

Final Project Over the Nervous System

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Why do onions make us cry?

Onions produce a chemical irritant known as syn propanethial s oxide. This irritant causes the lachrymal glands to release tears. When these glands release tears it will not cause any damage to our lachrymal glands. Our nervous system detects when syn propanethial s oxide comes in contact with our eyes, which explains why our lachrymal glands produce tears. The amino acid sulfoxides of the onion get converted to sulfenic acid which then causes the unstable sulfenic acid to turn itself into syn propanethial s oxide. Some ways you can prevent yourself from crying while cutting onions are freezing the onion, soaking the onion in cold water, and using a sharp knife. Freezing the onion will prevent you from crying because it slows the conversion of sulfoxides into the eye stinging gases. Soaking the onion in cold water helps because it slows down the production of the gases. Using a sharper knife will cut cleaner, which creates less gas releasing damage to the cell wall in the onion. Another thing you can try is chewing on a piece of bread slowly or chewing on gum. This will prevent you from crying because you will be forced to breath through your mouth.

Why brain freezes occur:

A brain freeze is a sharp and quick pain that may feel dull or even ache. You will feel this pain in the frontal area of your head. A brain freeze or ice cream headaches possibly occur when

we eat something extremely cold because of your trigeminal nerve. The trigeminal nerve is in charge of sensations in the front of your head. The trigeminal nerve is affected by the really cold item you are eating or drinking when it comes in contact with the roof of your mouth. The blood vessels in your brain will become wider which will cause them to send a rush of blood into the roof of your mouth. The pain associated with a brain freeze or ice cream headache, comes from that rush of blood from the blood vessels in the brain. You have probably always wondered how to cure a brain freeze or ice cream headache, so now I am going to tell you some ways. Some ways to get rid of your brain freeze are, pressing your tongue or thumb up against the roof of your mouth, taking a sip of a warmish liquid so your body temperature can return to normal, and eating or drinking cold foods or liquids in a slower manner.

Why do we yawn?

People yawn for multiple reasons, not just because we are tired! When we are yawning when we are tired our bodies are trying to wake themselves up. Our brains are slowing down which causes our body temperatures to drop. When our brains are not feeling stimulated and start to slow down our body temperature will drop which will also cause you to yawn. Seeing someone else yawn will make you yawn as well. Yawning relies on the autonomic nervous system and is associated with sympathetic suppression. After a brain injury or stroke, I found that yawning may help regulate the brain and it can also reduce the brain's and body's core temperature. If you have lower levels of oxygen in the paraventricular nucleus which is found in the hypothalamus of the brain, it will induce yawning. This is because when you yawn oxygen supply increases in the brain. Yawning can be prevented by taking deep breaths through your nose and exhaling out your mouth, drinking cold beverages, snacking on cold foods, and keeping

your environment at a cooler temperature. Yawning is also contagious, it is triggered involuntarily when watching someone else yawn. Mirror neurons found in the frontal cortex in some vertebrates is the cause of it being contagious!

How does the reflex reaction work?

Whenever we touch something very hot or extremely cold, we immediately jerk our hand away. This is because of our systems reflex reaction, a reflex is an automatic reaction to a stimulus. Reflexes do not require any thought input and cause instantaneous movements when coming in contact with someone hot or extremely cold. Information about a stimulus gets brought to the brain or spinal cord from a neuron and then connects with a motor neuron. If it was not for our reflexes we would not be able to react automatically to a stimulus, so our reflexes is why we immediately jerk our hand away from an object that is hot or really cold. Our skin receptors will send nerve impulses quickly to the spinal cord from sensory neurons. Our nerve impulses follow nerve pathways that elicit a response known as the reflex arc. The reflex arc controls reflexes and is a neural pathway. Sensory neurons usually do not pass through the brain directly, instead they use synapses to get to the spinal cord. By doing this it allows reflex actions to act more quickly. They act more quickly by activating spinal motor neurons without any delays from the brains routing signals. Having reflex reactions allows us to protect body tissue that is delicate.

Citation Page:

PROPANETHIAL S-OXIDE. (n.d.). Retrieved from

<http://www.chm.bris.ac.uk/motm/pso/psov.htm>

How to Cut an Onion Without Crying (We Tried Everything!). (n.d.). Retrieved from <https://www.google.com/amp/s/greatist.com/amp/eat/how-to-cut-an-onion-without-crying>

How to Stop a Brain Freeze in Its Tracks. (n.d.). Retrieved from <https://www.foodnetwork.com/fn-dish/news/2017/04/how-to-stop-a-brain-freeze-in-its-tracks>

What really happens to your body when you get a brain freeze. (n.d.). Retrieved from <https://www.google.com/amp/s/www.businessinsider.com/how-does-brain-freeze-happen-2018-7?amp>

5 Tips to Avoid an Embarrassing Yawn. (n.d.). Retrieved from <https://www.google.com/amp/s/www.livescience.com/amp/36110-yawn-contagious.html>

Do we yawn to cool the brain? Yawning frequencies of people vary with temperature of the season. (2014, May 6). Retrieved from <https://www.sciencedaily.com/releases/2014/05/140506120031.htm>

Foundation, C. K.-12. (n.d.). 12 Foundation. Retrieved from <https://www.ck12.org/book/human-biology-nervous-system/section/5.1/>

Custers, E. (2019, January 31). Reflex Action and Reflex Arc: What Happens When You Accidentally Touch a Hot Pot. Retrieved from <https://owlcation.com/stem/Here-is-what-happens-when-you-accidentally-touch-a-hot-pot>