Why do we yawn? [1]

(1) Hello Alice,

I have a bet with someone on the correct meaning of a YAWN. I think it is because we yawn as our bodies aren't getting enough oxygen. He claims it is specifically from being tired? What is the correct meaning please and thanks?

(2) Alice,

What is the purpose of a yawn?

Answer

Dear Readers,

While there are still a number of unknowns when it comes to this phenomena, research has indicated that yawns are involuntary reactions to a variety of stimuli, including being tired and seeing someone else yawn. But it doesn't just happen after a long day or when you’re so bored you want to go to sleep. While yawning doesn't seem to occur when people need oxygen, it may serve other biological functions. Some research indicates that it may cool down the brain and protect and strengthen the lungs by keeping them active. Alternately, yawning may serve a social function — experts and laypeople alike have found yawning to be “contagious.” Interestingly enough, research has shown that yawning can be induced just by talking about it, seeing a video or still-image of a person yawning, or even reading about yawning! Though there are a number of theories presented by the research, it’s still not clear exactly why people yawn.

It may seem like the act of yawning is as simple as opening your mouth wide and breathing in deeply. But, it’s actually more complicated than that. Yawning may involve stretching your facial muscles, narrowing or closing your eyes, tearing up, and salivating. Each time you yawn, you also open the Eustachian tubes [2] connecting your ears to your oral cavity, and, for twenty seconds or less, you increase your alertness. So, given the multifaceted nature of yawns, it’s no surprise that researchers have had a hard time pinpointing exactly why people yawn or what a yawn itself means.

From a biological standpoint, some people conjectured that yawning is used to oxygenate the
blood. However, research has shown that you yawn comparable amounts no matter the oxygen levels circulating throughout your body. Yet another theory suggests that yawning is used as a way to cool the brain. The idea is that, during warmer temperatures, your brain’s temperature is slightly higher than optimally desired, so you yawn to return these temperatures to a preferred level. Conversely, you may find that you yawn less when it’s cooler outside since your brain is closer to its optimal temperature. Maybe you can track your yawning habits during the winter and summer time, and see if you notice a difference!

Other yawning theories suggest yawning serves to increase alertness or lubricate the lungs. A person may feel more alert after a yawn because while it’s happening, different muscles and joints flex, heart rate increases, and in turn, feels more awake in their surroundings. There are other schools of thought that argue that yawns are protective reflexes meant to keep the lungs lubricated by spreading an oil-like substance (surfactant) across the lungs, thus keeping them from collapsing.

The last theory, is one that may explain why yawns are sometimes “contagious.” It seems that yawns are connected to experiences with minor displeasure — such as feeling sleepy, mildly stressed, or bored. The more a person seems susceptible to contagious yawning, the more they seem socially competent and able to empathize with people around them. So if you find yourself joining your classmates in yawning during a 9 a.m. lecture, this may mean you’re especially empathetic!

Despite these captivating theories, there still isn’t definitive evidence explaining why people yawn or its purpose! So who wins the bet, Reader 1? It’s hard to say: yawning doesn’t happen only when you’re sleepy, but it’s also not about getting enough oxygen either! It may be time to call this bet a draw.

Alice!

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