

Name: _____

Date: _____

Science Friday Think Big



From **“Can algae help pull microplastics out of our water supply?”**

Why do we yawn? Discover your brain’s rinse cycle!

Have you ever found yourself awake long past bedtime, caught up in a video game, captivated by a TV series, or lost within the pages of a good library book? We all have those nights when we don’t hit the recommended 8 to 10 hours of sleep. How do you feel the next morning? Do you find yourself yawning all afternoon? Many people associate yawning with exhaustion or boredom. But researchers may have discovered that yawning could be beneficial. A yawn may actually help flush your brain clean.



1. Have you heard that yawning is contagious? Have you ever seen a friend yawn and wanted to do the same? Why do you think that is?

2. What do you notice about yourself if you don’t get enough sleep? Make a list of ways your memory, emotions, or body reacts when you are sleepy.

3. The body’s waste disposal system is part of the lymphatic system. The removal of by-products from the brain by CSF is part of that system. What other organs or organ systems in your body produce waste? How do you think those wastes are removed?

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The original audio for this story and the transcript can be found at:

<https://www.sciencefriday.com/segments/why-we-yawn-brain-waste-cleaning/>

It is about 18 minutes long.

This story aligns with the following NGSS standards:

LS1.A: Structure and Function - In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions.

Expected answers:

1. A possible answer may be yes because sometimes we copycat others or when someone else is sleepy it makes me feel sleepy too.
2. Possible answers include trouble making decisions or focusing, feeling grumpy or stressed, craving sweets, or feeling tired.
3. Possible answers may include urinary system, which filters liquid waste from blood; digestive system, which removes solid food leftovers; respiratory system, which cleans out gas waste; and integumentary system (skin), which releases waste through pores (sweat).