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## Curious Kids: how do tongues taste food?

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Your tongue has special parts, bundled together as taste buds, that pick up flavour. But your other senses also help your brain work out how something tastes. Flickr/Jessica Lucia, CC BY-SA

*Curious Kids is a series for children. Kids can send questions to [curiouskids@theconversation.edu.au](mailto:curiouskids@theconversation.edu.au). You might also like the podcast *Imagine This*, a co-production between ABC KIDS listen and *The Conversation*, based on *Curious Kids*.*

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***How do tongues taste food? – Ridley, age 4, Melbourne.***

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Dear Ridley,

This is a really good question. Tasting food actually uses all of your senses. Your senses gather up all the information and combine it into a message about the taste of food that gets sent to your brain. For example, your eyes help you recognise food and remember how it tastes.



It's not just about the tongue. The five senses - taste, touch, sight, hearing and smell – help collect messages about a food and send it to your brain. Shutterstock

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### ***Read more: Curious Kids: How do we get allergic to food?***

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Your tongue has special parts that pick up flavour, bundled together as taste buds. They help you taste different flavours, like sweet, salty, sour, bitter, and a special one called “umami” which some people say is a bit like a mix of all the others put together.

The taste buds pick up clues about how a food tastes and sends messages about it to your brain along special wires called nerves.

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Your brain gets messages from your taste buds via nerves. Shutterstock

To taste something properly, you need to chew food into small pieces and to have a lot of drool, or saliva. This help the flavour molecules (also known as “tastants”) reach your taste buds.

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This picture shows a close-up of taste buds on a tongue. Shutterstock

Try this experiment: if you lick a piece of sliced apple, how does it taste? Now drink some water to wash away the flavour, and take a bite of the apple and chew it up. When you cut an apple, only some flavour is released. But if you chew it into smaller pieces, more flavour can escape into your mouth.

Foods taste sweeter if the sugar particles are smaller. Want to try another experiment? With permission, put some large sugar crystals on your tongue for five seconds. How sweet do they taste? Now rinse your mouth with water and put some fine icing sugar on your tongue – is it sweeter or less sweet than the big sugar crystals?

The smaller the sugar particles are, the easier it is for your tongue to taste the sweetness. (For the adults reading, this is because smaller particles have a higher surface area). This trick helps food scientists develop sweet foods with less sugar.

## Saliva and smell

When you chew your food, you also produce saliva (or spit) which dissolves some of the food flavour for your to tongue taste.

Want to try another experiment? Stick out your tongue as far as it can go and dry the saliva off with some thick paper towel. While your tongue is still sticking out, have your parent put some food on your tongue, like yoghurt. How strong is the flavour? Next, pull your tongue back into your mouth and taste the food. Is the flavour stronger, weaker, or the same?

If your nose is blocked, food tastes weaker. This is because your nose also helps you “taste” food too.

Try it! While holding your nose closed, put some food in your mouth and chew. Can you taste it? While still eating the food, let go of your nose and keep eating. Is the flavour stronger, weaker, or the same?

In fact, without your sense of smell it can be hard to taste the difference between a raw apple and a raw onion!

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When it comes to tasting flavour, your nose helps a lot. Flickr/Bruce Tuten, CC BY

So your tongue and nose work together to help you taste your food. I hope you can help your tongue taste more by chewing your food fully and using your saliva to help make the flavour stronger.

And if you have something to eat that you don't like, try holding your nose!

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***Read more: Curious Kids: why do some people find some foods yummy but others find the same foods yucky?***

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*Hello, curious kids! Have you got a question you'd like an expert to answer? Ask an adult to send your question to [curiouskids@theconversation.edu.au](mailto:curiouskids@theconversation.edu.au)*

*Please tell us your name, age and which city you live in. We won't be able to answer every question but we will do our best.*