

CURIOSITY AT HOME

TRICK YOUR TASTE BUDS



Taste is sensed by taste buds on your tongue. But the brain looks at a lot more information than just what's coming in from the taste buds when it determines something's flavor. Alter other sensory input in this experiment to see if you can trick your taste buds.

MATERIALS

- Blindfolds
- Plates
- Pieces of any bland food, like jicama or crackers.
- 3–5 scent samples (examples: vanilla extract, peppermint, peanut butter*, cinnamon, lemon peel, coffee, etc.) *Make sure participants are not allergic to any foods or scents you're using
- Science notebook or paper
- Something to write with

PROCEDURE

- Prepare a plate of 6–10 pieces of bland tasting food, 3–5 scent samples and a blindfold.
- Put on the blindfold to help focus your sense of taste and smell.
- Pinch your nose and taste 1 bite of bland food. Note the flavor.
- This time instead of holding your nose, have a partner hold one of the sample scents under your nose for you to smell while you eat the next bite. Note the difference in flavor.
- Repeat with all scents and then switch with your partner.
- What did you discover about the relationship between taste and smell? Why might your sense of taste seem weaker when you have a cold?

DID YOU KNOW

What we call 'flavor' in the food we eat is actually the brain interpreting a mixture of sensations: smell, texture and taste. About 70–75% of what we interpret as flavor actually comes from our sense of smell. Our taste buds can interpret only 5 basic tastes: bitter, sweet, salty sour, and umami (or savory). A person's sense of taste can often be confused by comments or suggestions of other people or by mixed signals sent to the brain. For example, if you tried jicama, you may have mistaken it for an apple, because they look and feel similar to one another.



vanilla



peppermint



peanut butter



cinnamon



lemon peel



coffee



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K-2 GRADE EXPLORATION

- Animals and people gather information from their environments through their senses. They use this information to help them survive. In your science notebook, write or draw some ideas of how your sense of taste can help keep you healthy and safe.
- Make a list in your science notebook of as many of your senses as you can think of. Give an example for each sense of something that it can do to help you stay healthy and safe.
- Which of your senses play a part in how you experience eating a meal? Make a list of all the ways your senses are involved in eating.
- Try changing the way food looks by adding food coloring, or arranging it in different shapes to see. Does it change how much you like the food?



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3-5 GRADE EXPLORATION

Explore the following questions and write your observations in your science notebook.

- Which of your senses play a part in how you experience eating a meal? Make a list of all the ways your senses are involved in eating.
- Try changing the way food looks by adding food coloring, or arranging it in different shapes to see. Does it change how much you like the food?
- Different parts of the body are specialized to detect certain sensory information. For instance, smell and taste both detect chemical compounds. What kinds of information do sight, touch, and hearing gather?



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6–8 GRADE EXPLORATION

Explore the following questions and write your observations in your science notebook.

- Different parts of the body are specialized to detect certain sensory information. Humans are able to detect chemical, electromagnetic, and mechanical information from our environments. Which of our senses collects which type of information?
- Even though each sense receptor only interacts with one type of information input, our experience of a sense can be changed by other data sources. As we saw in this experiment, changing the information that the nose gathered influenced how we experienced flavor, which we typically think of as being exclusively about taste. Try changing the flavor of a food item by changing how it interacts with one of your other senses. For example, arrange food in a beautiful display or dye it blue with food coloring. Alternately, change the way food interacts with your sense of touch by getting help from your adult to puree it. Does this change how much you enjoy the food?



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