

Topic	Health
Phenomenon	Senses (taste)
Experiment	Taste bar (flavor test)
Available material	none
Additional material	taste samples of salty foods (for example, salt, savory snacks) taste samples of sweet foods (for example, sugar, sweet fruits, honey) taste samples of sour foods (for example, sour fruits) taste samples of bitter foods (for example, grapefruit, cocoa) a cup of drinking water per child plates
Preparation for experiment	Prepare a small “taste bar” by serving small snacks and samples of the various foods on the plates, sorted by flavor types. Find out beforehand whether any of the children suffer from allergies to any of the foods provided.

Research question

What can we taste?

Description

This experiment should not be conducted in small groups, but together with the entire group of children.

Ask the children which flavor types they know. They are bound to come up with terms such as “sweet” or “salty”. Take this opportunity to have the children taste the samples that match these flavor types. In this way, they can link a flavor experience directly and consciously with the term.

Before changing from one flavor type to the next, the children should drink a little water so that the previous flavor is neutralized.

Together with the children, try the following experiment: The children taste something sour, and then something sweet, and then something sour again – without drinking water in between. Does the perception of the sour taste change? Often, sour things taste even sourer if you have eaten something sweet beforehand.

Explanation

We perceive different flavors using sensory cells known as “taste buds”. These are located on the tongue and throughout the oral cavity. With them, we can perceive five basic types of flavor: sweet, salty, sour, bitter and umami (from Japanese: savory and meaty taste, similar to mellow tomatoes and cheese). But most flavor stimuli are combined sensations; an orange tastes both sweet and sour. Our sense of taste reacts especially sensitively to bitter substances, since these are often poisonous and are therefore dangerous to us. The sense of smell and the sense of taste are closely linked. For example, if someone's nose is blocked because of a cold, he or she often can no longer taste properly.

Further ideas

Suggest to the children that they bring foods in themselves (fruits, juices, bread, etc.) and add them to the “taste bar”. Together you can think about which of the foods tastes fall more into the salty, sweet, bitter, or sour category. The children can sample these foods to check this out, and can then sort the foods.