

Topic	Health
Phenomenon	Sense (our skin)
Experiment	Skin as a sense organ
Available material	3 experiment containers 3 – 4 magnifying glasses
Additional material	2 – 3 plastic bags a few flat, hand-sized stones a few stones of different sizes and weights water at various temperatures
Preparation for experiment	With the children, collect a number of flat, hand-sized stones of different sizes. Find a way to warm the stones (sun, warm water, stove) and also cool them (refrigerator, basement, cold water). Make sure that the stones are not too hot. Fill the plastic bags with a little water and knot them at the top.

Research question

What can we perceive with our skin?

Description

Ask the children to close their eyes. Without saying anything, give the children either a warm stone or a water-filled plastic bag. Have the children feel the objects with their eyes closed. How does the object feel – hard, soft, warm, cold?

Have the children work together – one lies on his or her back or belly, stretches out his or her arms and legs, and closes his or her eyes. A second child carefully lays a stone on part of the body of the child lying down. Does the child lying down feel where the stone is, and whether it is a large, small, light, or heavy stone?

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

Place three experiment containers filled with water at different temperatures in a row: cold, lukewarm, and warm (not hot!). Ask two children to dip their hands into two experiment containers, one hand in the middle (lukewarm) container and one in another container. How do the children describe the water temperature of the experiment containers, especially the middle one? Can the temperature difference also be felt with the elbows or the feet?

Explanation

The skin is our body's largest sensory organ. It envelopes the entire body and provides a boundary between the inside of the body and the environment. The skin has a number of different tasks (protection against mechanical injury and penetration by external substances, temperature regulation, detoxification by sweating, respiration, and so on).

The surface of the skin has a large number of sensory receptors with which we can perceive all sorts of stimuli: temperature (stones and water of different temperatures), contact and pressure (feeling the stones, stones on the body), pain, vibrations, tension. These sensory organs are located right under the skin. Their density and/or distribution varies from body part to body part. The most sensitive parts are the finger tips, the palms, and the soles of our feet. Our lips are also very sensitive. In addition, the thickness of the skin varies in different areas of the body.

Further ideas

A child can lie on his or her back and push up his or her sleeves and possibly trouser legs. Ask the other children to carefully place warm stones on the child's arms, legs, and/or forehead. What does the child feel?

Offer the children the opportunity to examine the skin on various parts of their body in more detail, using a magnifying glass, for example. Do the children see the little pores? Are fine hairs already starting to grow? What does an adult's skin look like? Who has birthmarks?