



Exploring the Sense of Touch!

Touch Activity: In this activity, you will learn about the sense of touch and sensory information. Homemade, DIY calipers (a device used to measure the distance between two points) will be used to help understand the density of sensory receptors on different parts of the skin. Visit the ASCEND DIY Caliper video for supplies and instructions on how to make your own calipers!

Background: Your skin is the largest organ in your body and will send feedback to your brain whenever you come in physical contact with your environment. Receptors that are present on your skin cells allow you to feel and respond to things like pressure, vibrations, and stretching of the skin. These receptors send signals to the spinal cord and eventually to your somatosensory cortex (in the parietal lobe of the brain). Regions that will be tested include: fingertip, cheek, upper arm and palm of the hand. Some parts of the body are more sensitive than others, and the “two-point discrimination” can test the ability to perceive whether two points touching you are felt as two points or one point.

Two-point Discrimination Activity: Using a partner and the DIY calipers to measure distance of the two points, record which parts of the body are more sensitive. One partner will use the calipers on the second partner and record the data. Have the second partner (test subject) close their eyes during the activity. The calipers allow for the recording of distance between the two distinct points using a ruler. To start out, the two points should be close together so they are felt as one point touching the skin. The two points are pulled farther apart gradually and reapplied to the skin until the test subject reports that they can clearly feel two separate points on their skin, this distance is the “two-point” threshold. Record the distance, then have partners switch roles.

<u>SITE</u>	<u>TWO-POINT THRESHOLD DISTANCE</u>
FINGERTIP	
CHEEK	
UPPER ARM	
PALM	

Discussion: Which body region had the smallest two-point threshold? Which body region had the largest two-point threshold?

Takeaway: Your fingertips are the first thing that you use to interact with the world around you! They’re essential in how we engage with our environment, helping us to determine whether what we are touching is potentially dangerous (e.g., very hot or sharp). That’s why our fingertips are among the most sensitive parts of the body– they alert us through the sense of touch about the difference between a dangerous cactus and a harmless flower.

Another **reference** for this activity: <https://www.sciencenewsforstudents.org/article/experiment-testing-the-power-of-touch>