

Sense of Touch Activities

Estimated Time: 30 minutes

SUMMARY

Our skin is not only the largest protective organ we have, it is also the largest sensory organ that helps us keep safe and healthy. The sensory signals are received by receptors in the skin and translated through nerve cells to the brain. In this experiment, you can test a friend or parent's sensory reception and sensitivity!

WHAT YOU'LL LEARN

- How humans process sensory input
- Sensitivity is based on placement and concentration of sensory receptors

Materials Used	Resources Used
<ul style="list-style-type: none"> • Paper • Pencil • Another willing person • Various items with different textures • Cardboard box • Scissors • Toothpicks • Blindfold (optional) • Ruler 	<ul style="list-style-type: none"> • https://www.abpschools.org.uk/topic/skin-structure-and-function/ • http://www.planet-science.com/categories/over-11s/human-body/2011/05/what%27s-in-a-nerve.aspx

WHAT TO DO

1. For these activities you will need another person. The first activity is setting up a touch table quiz. Without the other person seeing what you are setting up, choose six objects in your house that have different textures. Be sensitive to the other person and do not pick objects that might be dangerous like scissors or a cactus! Definitely do not use any living things.
2. Place your objects on a table evenly spaced apart from each other. Using the cardboard box, cut holes that match the objects you chose. Set the cardboard box over your items. Label the holes with the numbers 1-6.
3. Ask the person you are working with to put their hand through the hole and touch the object. Make sure they are not looking into the hole and are just relying on their sense of touch. Ask them to identify the texture of the surfaces before guessing what the object is. Write down their observations and their guesses.
4. Once the other person has completed the six items, lift the cardboard box off your items. Did the person correctly guess the items? What did they observe about the ones they answered correctly? If they guessed incorrectly, have them consider errors they made while touching the objects; did they guess something similar, but not quite right?
5. Next, have the other person sit comfortably in a chair next to you. If they are comfortable wearing a blindfold, this might make the experiment a little more accurate, but if the person just wants to close their eyes that works, too.

6. Create a data sheet on your paper. On the left side of the table, put Arm, Finger, Hand, Knee; these are your test sites.
7. Take one toothpick and gently press it on the topside of the person's forearm. Ask the person how many toothpicks they feel.
8. Gently press two toothpicks, point downwards, lightly on the person's arm - make sure they're around 5 cm apart. Ask the person how many toothpicks they can feel.
9. Move the toothpicks closer together and keep asking how many toothpicks they can feel.
10. At a certain distance apart, the volunteer will only be able to feel one toothpick - even though there are two. When this happens, measure the distance between the two toothpicks and record on your data table next to Arm.
11. Repeat for the Hand, Finger, and Knee as long as the person is comfortable with continuing. Record your measurements for each site.
12. When you are finished, compare the sites to see where the person has the smallest distance they can sense two toothpicks as opposed to one. This is an area of their skin where they possess more sensory receptors. These receptors help us sense the environment and react to stimuli. In this case, the receptors are sensing pressure. What other stimuli do you think are present in your environment?

TIPS

- Have the person you are working with take over the role of experimenter, and you can become the participant. How does your sense of touch compare?
- Vary the items in your touch table to see if the other person is better able to identify objects that are a certain size, shape, or texture.
- Bring in additional family members to see how their sensory perception varies!