Activity 1: Test Your Touch

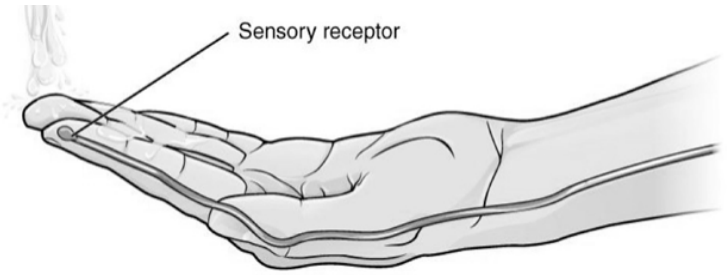
Use a special device to test your sense of touch—and find where on your body it's the strongest!

Materials:

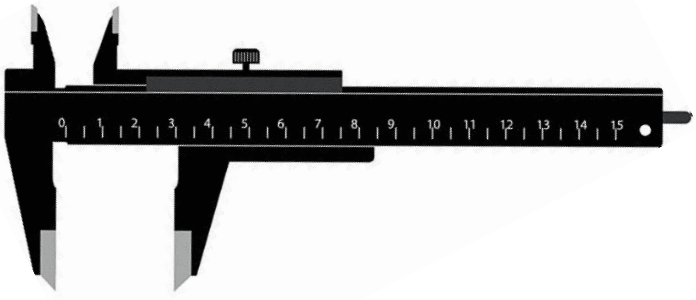
- *Caliper* (ruler with a slider)

Join us on **Mar. 20** at **2pm** to do this activity together! **bit.ly/satsci21**

1. Your body senses the outside world with special cells called *neurons*. The neurons in your skin that sense when you are touched are called *sensory receptors*, and each one tells your brain when your body is touched in a specific area around it.



2. One way to test how well these receptors work is to see whether they can sense the difference between one and two points. A device called a *caliper*, which measures the distance between two points, is perfect for this task. (But be careful, it's pointy!)

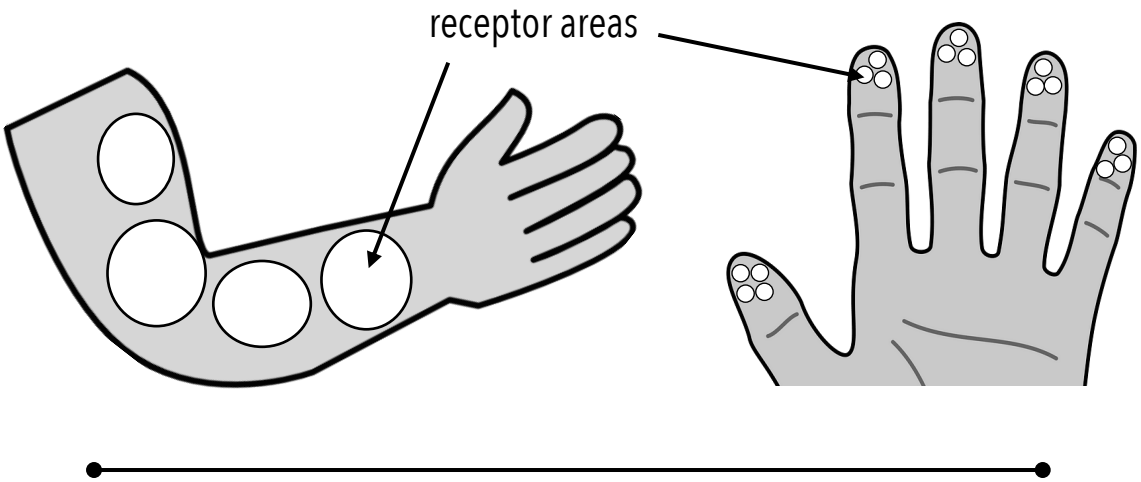


3. Move the slider of your caliper until the two big points are **5** centimeters (cm) apart. Then, place the two points gently on your arm. Do you feel both points?

4. Slide the point inward until the two are **3** cm apart. Place them again on your arm. What do you feel now? Repeat once more, testing at **1** cm apart. Has anything changed? Do you still feel both points?

5. Try these tests once more on the back of your neck, and then again on your fingertip. Where was it easiest to tell the points apart? The hardest?

6. Some parts of your body sense the points better because of their **number** of sensory receptors and the **size** of the areas they sense. Your arm has fewer receptors that cover larger areas, so if both points are near just one, the brain can't tell the difference!



Think about it: For a body part with lots of sensory receptors, do you think the brain needs more or less space to process its signals? For one with few receptors?

Further fun: Test a friend or a family member! Have them close their eyes and guess whether they are feeling one or two points on different parts of the body. Just be gentle when using the caliper!