**Two touch Discrimination Experiment**

This is the steps for the Two touch discrimination experiment we talked about in the video.

Follow the instructions but at the end feel free to get creative and experiment around by testing more people in your family, or trying out different body parts

Remember to be gentle and ask permission first!

Send me your findings at niamh.kerslake.staff@ctyi.org

**Background:**

Information from our skin allows us to identify several different types of sensations, such as tapping, vibration, pressure, pain, heat, and cold. But what is it that allows us to make these distinctions? First, human skin contains different kinds of sensory receptors (cells) that respond to mechanical, thermal (heat), or chemical. These receptors convey this information to the brain and spinal cord, also known as the **central nervous system (CNS)**, to areas where we perceive/sense the stimuli in our brain.
To do this, the nerve endings of the sensory receptors convert, the mechanical, thermal, or chemical energy into electrical signals. These electrical signals then travel along neurons along their **axons**, to the Central Nervous System.
In this experiment, we want to look at how the skin senses touch.

We know that how neurons are spread out throughout the body is not even. We have more nerves in our hands, our lips and our tongue. But this is what we want to test. For our experiment we want to see – how sensitive are different bits of the body and does it differ between different people?

**Experiment steps:**

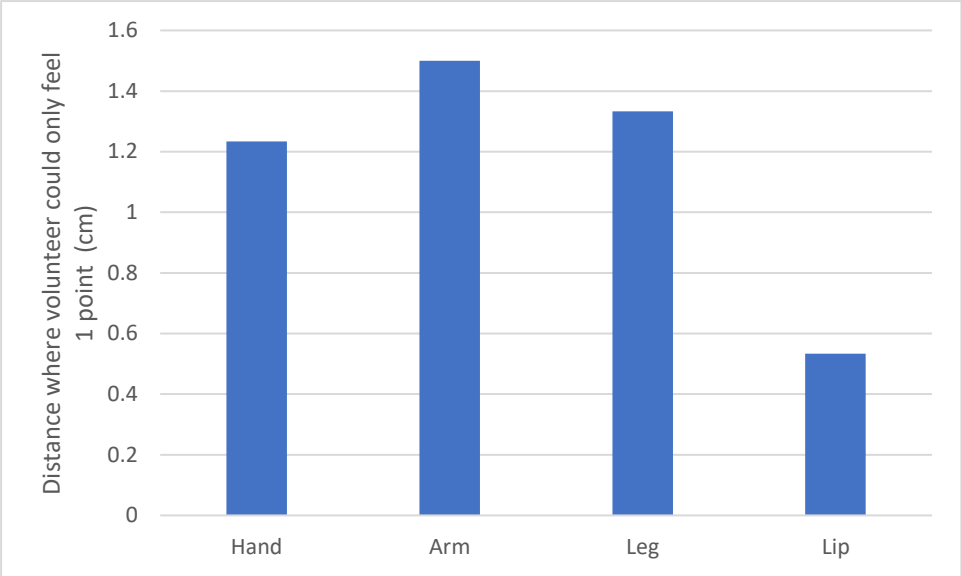
1. Ask a volunteer to help and get them to close their eyes
2. Get 2 cocktail sticks (or if you don't have any, two pencil tips will work) and gently place them on your volunteer's arm and ask them if they can feel 1 stick or two
3. If they can feel two sticks, move the sticks closer towards one another and ask the person again. If they feel 2, move the sticks closer together again
4. Keep moving them closer until they can only feel one stick touching their skin
5. Measure the distance between the two sticks and write it down
   e.g.

| **Volunteer's name** | **Body part** | **What distance between the two sticks could the volunteer only feel one stick on their body** |
|---|---|---|
| Sarah | Hand | 1.3 cm |
| David | Hand | 1.2 cm |
| John | Arm | 2 cm |
| Sarah | Arm | 2.1 cm |

   If you can, for a few goes only use one cocktail stick to make sure your volunteer isn't lying to you

6. Write down your results like in the table like the one above and send me your results

7. **OPTIONAL:** If you're feeling really scientific, maybe try put your results in a graph like the one below. You can draw it, or show it however you like




**Remember: These are just an example. You could get very different results to these ones here so if your results are different, don't worry this is how science works. Just send me your results and we can put everyone's results together**