Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_ Block \_\_\_\_\_\_\_\_\_\_

**Locating Touch Receptors**

**Lab**

I. **Touch Receptors**

Have you ever wondered why your hand instantly pulls back when it touches a hot pan on the stove? Have you noticed that smooth fabrics feel better to your skin than rough fabrics do? Both of these reactions involve your sense of touch.

**Touch receptors** in your skin help you respond to your environment. Your body responds to different stimuli including pain, temperature, and pressure. These receptors are more closely grouped together in certain parts of your body than in other parts, making it so that not all parts of your body respond the same to stimuli. **The more closely grouped the receptors are the better your sense of feeling**. These areas are very important in gaining a better understanding of your environment; hot, cold, sharp, soft. **The more spaced out the receptors are the more reduced the sense of feeling**. These areas are not so important in gaining a better understanding of your environment.

In this activity, you will investigate the distribution and sensitivity of touch receptors at 5 different locations on your body.

**Problem**:

How sensitive are touch receptors at different locations on your body?

**Materials**:

* 5 pieces of cardboard lettered A, B, C, D and E

**Procedure**:

1. Have your **partner shut their eyes** so that they cannot see which piece of cardboard you will be testing them with.
2. **Randomly** use each of the 5 pieces of cardboard, A-E, to **gently** touch your partner at the indicated locations on their body.
3. Ask your partner to tell you **how many points they feel**, 1 or 2, with each of the 5 different cardboard pieces.
4. Record their answers in the appropriate data table.
5. Repeat steps 1-4 with the other partner.

**Data Table #1: Name** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Body Part** | **A**  **(2)** | **B**  **(2)** | **C**  **(2)** | **D**  **(2)** | **E**  **(1)** |
| Fingertip |  |  |  |  |  |
| Palm of hand |  |  |  |  |  |
| Back of hand |  |  |  |  |  |
| Back of neck |  |  |  |  |  |
| Inside wrist |  |  |  |  |  |

**Data Table #2**: **Name** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Body Part** | **A**  **(2)** | **B**  **(2)** | **C**  **(2)** | **D**  **(2)** | **E**  **(1)** |
| Fingertip |  |  |  |  |  |
| Palm of hand |  |  |  |  |  |
| Back of hand |  |  |  |  |  |
| Back of neck |  |  |  |  |  |
| Inside wrist |  |  |  |  |  |

**Analysis**:

1. What do touch receptors help you to do? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. The more closely grouped together: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. The more spaced apart: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. On which body part did you have the **most accurate** results? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How do you think this relates to the number of touch receptors located in this area? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Which body part had the **least accurate** results? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. How do you think this relates to the number of touch receptors located in this area? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_