Two Point Discrimination

Objective
Demonstrate differences in discrimination between the touch sensation in different areas of the body.

Materials
2 sharpened pencils (or toothpicks) per pair of students
1 ruler per pair of students
1 chart per student (taped into science journal)

Background
One's sense of touch develops earlier than other senses. This allows babies to explore their environment with their fingers and mouths.

On different areas of one's body, one has a more refined sense of touch. For example, on one's back, objects must be further apart to be individually recognized. In contrast, on one's finger, objects are individually perceived when much closer together.

This is due in part because of the density of receptors in one's fingers is greater than the density of receptors on one's back.

Activity
** do not allow the student to watch the experiment as it is performed on them**

Experiment 1
1. Have student hold out finger.
2. Touch two pencils gently to their skin at either end of their finger.
3. Slowly move the pencils closer and closer together (moving each pencil closer to the middle of the finger).
4. At each point, ask the student to identify how many points they feel.
5. When the student switches from feeling two points to feeling only one, measure the distance between the two points.
6. Have student mark distance on chart.
7. Let other student pairs run this half of the experiment in the same fashion as the demonstration.

Experiment 2
1. Have student turn around and gently touch two pencils to their skin at each shoulder blade.
2. Slowly move the pencils closer and closer together as done earlier on the finger. At each point, ask the student to identify how many points they feel.
3. When the student switches from feeling two points to feeling only one, measure the distance between the two points.
4. Have student mark distance on chart.

5. Let other student pairs run this half of the experiment in the same fashion as the demonstration.
6. Discuss differences in point discrimination differences between fingers and backs. Hypothesize discrimination capabilities on other areas of the body. If time permits, allow students to test these hypotheses.

Fun Fact: Animals' whiskers are more sensitive to point discrimination than our fingers. (Discuss with students why this might be.)

Name_____

Area of Body being Tested	Distance of one point sensation (in inches)

Name_____

Area of Body being Tested	Distance of one point sensation (in inches)

Name_____

Area of Body being Tested	Distance of one point sensation (in inches)