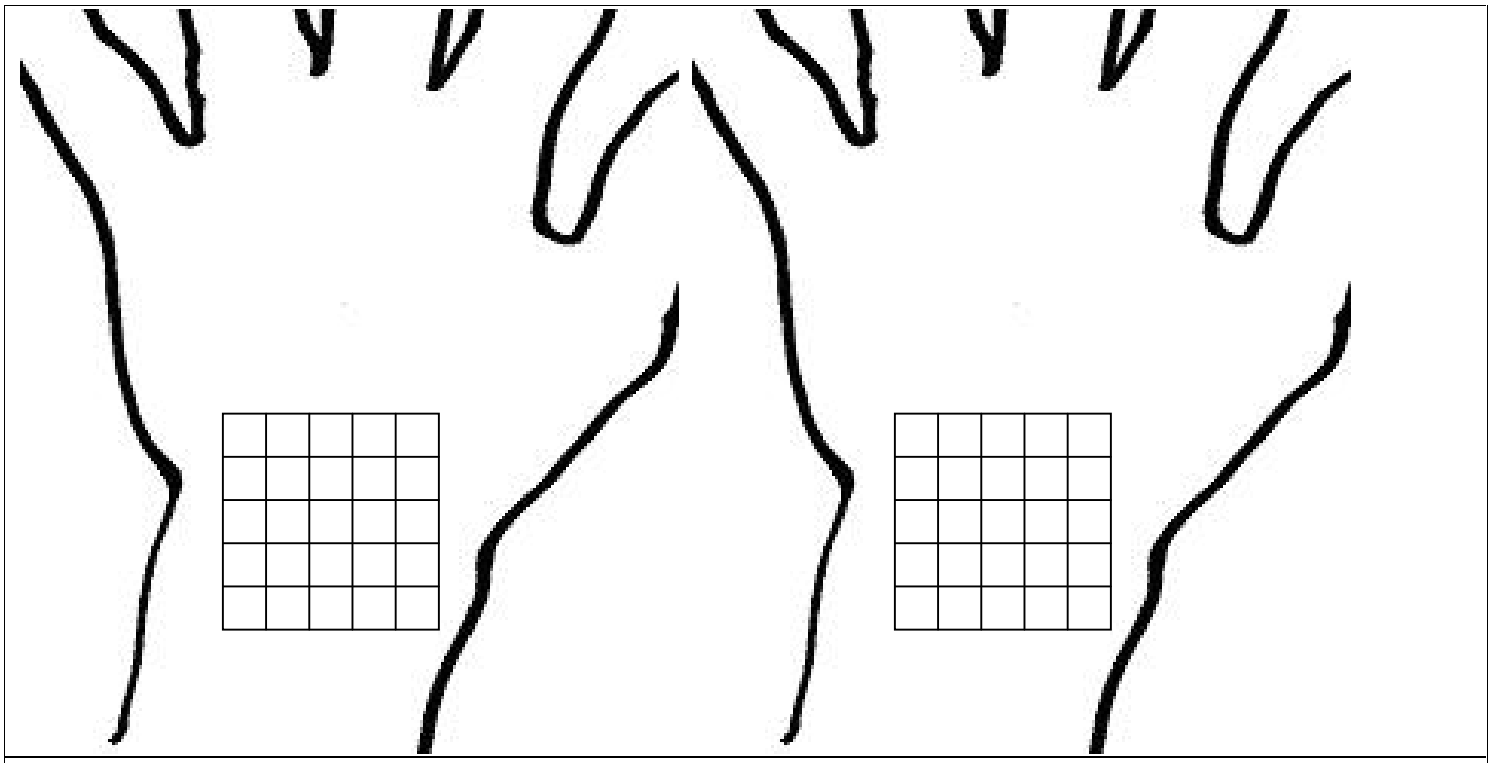
Sense Lab Data Sheet



Touch Pain

Two Point Threshold

(2 point gauge)

Body Region Tested	Threshold point (mm)
Forearm (ventral)	
Forehead	
Back of Hand	
Palm of Hand	
Fingertip	
Back of Neck	

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Sensory Adaptation

1. How long did it take until you could no longer feel the brass weight on your wrist?
2. Describe the sensation you experienced at that location after removing the weight.

Psychological Zero

1. Compare what the temperature of the 30° C water feels like with each hand after having previously placed them in the warm and cool water.

Cold to 30° C feels _____ Hot to 30° C feels _____

Somatic Senses Analysis Questions

1. Most likely there are people in the class who were more or less sensitive to light touch than you were. What would be a reason different people have varying sensitivity to touch?

2. Most likely your pattern of sensitivity to touch did not match your sensitivity to pain. What does that tell you about the arrangement of nerves for pain and touch in your skin?

3. What body parts would you expect to be more sensitive to pain and why? Less sensitive to pain? Why?

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4. If we had used the same grid system to test your sensitivity to heat and cold, we would have found that the pattern for heat wouldn't match the one for cold. Do you feel you are more sensitive to heat or cold? What does this about the number of nerve endings used to detect these two temperatures in your skin?

5. Explain why certain areas of the body are very dull in their ability to distinguish two points apart when they touch you. Aside from the obvious lack of need for sensitivity in some parts of the body, what is the benefit to having some areas poorly monitored?

6. The notes you will be covering on how nerves send messages talks about a state called hyperpolarization. Look up what hyperpolarization is and tell me why it explains why your ability to feel the weight faded.

7. Why did you think you experienced a sensation when you removed the weight? How could you "feel" something that wasn't there?

8. Using what you learned in the Psychological Zero experiment, explain how your sensations of hot or cold are different from your other somatic senses. Why does that explain why you have to keep turning the water in your shower hotter and hotter the longer you are in it?

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Exercise II: Visual Senses

A. Basic Blind Spot Observation:

B. Advanced Blind Spot Observation:

C. Dominant Eye _____

D. Near point _____mm (Near Point – No correction _____mm)

E. Visual Acuity

Left Eye:	Left eye corrected:
Right Eye:	Right eye corrected:

F. Afterimage description:

G. Pupil Response

1. _____
2. _____

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H. Reaction Time in milliseconds:

	Act	Think & Act	Read Think Act	Read Think – Negate Act
Average reaction time				
Fastest Reaction Time				
Slowest Reaction Time				
Reaction time Trend				

Visual Senses

1. What caused the blind spot on the back of your eye? Why are you unaware of the presence of that blind spot in normal situations?

2. If one eye is dominant, and is paid attention to more by the brain, then what information does the non-dominant eye provide that justifies it's existence?

3. Would a person who is nearsighted or farsighted have greater trouble focusing on the pencil as it came closer?

4. Why would this explain why working at a computer terminal or driving are often the cause of headaches.

5. Do your pupils respond to light levels independently or together? Why do your eyes natural reactions not protect your retina if you look directly at a Solar eclipse?

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6. Using the data collected in the reaction time activity, state the average amount of time required (in milliseconds) to process each of the following:

Act: Think: Read: Negate:

7. Which component of processing the information took the most time? What do you think made that the most time consuming?

Auditory Senses

1. What is the maximum frequency you can hear:
    a. Left Ear _____
    b. Right Ear _____

2. What structure in your ear normally detects the vibrations and converts them into nerve impulses?

3. Explain what causes the loss of hearing at the highest frequencies as people age.